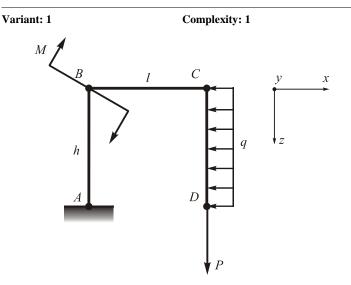
**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

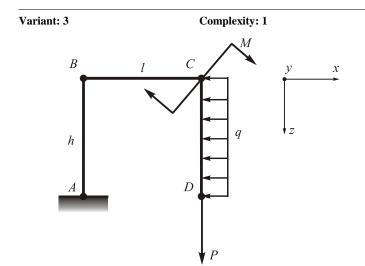
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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

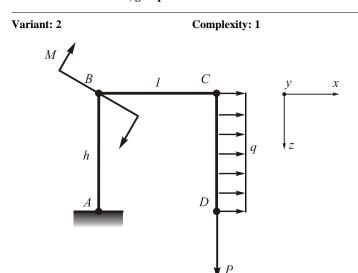
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### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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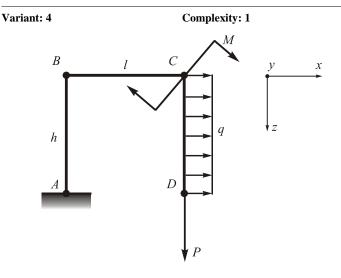
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

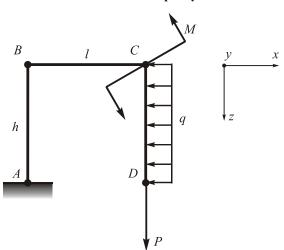
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Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 5 Complexity: 1



 $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ **Given:** q = 10 kN/m,M = 30 kNm,

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

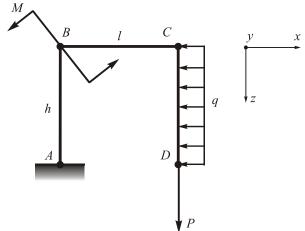
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 7 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm,P = 40 kN,l = 2 m, h = 3 m.

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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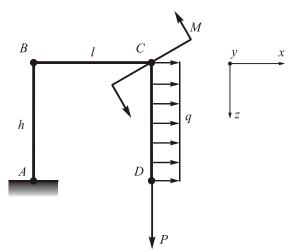
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 6 Complexity: 1



 $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ **Given:** q = 10 kN/m,M = 30 kNm,

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

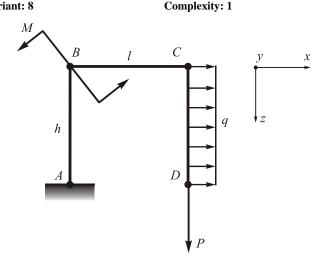
Subject: mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Variant: 8



Given: q = 10 kN/m, M = 30 kNm,P = 40 kN,l = 2 m, h = 3 m.

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

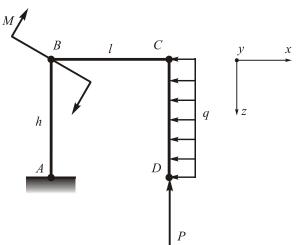
Full name of the lecturer signature

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 9 Complexity: 1



**Given:** q = 10 kN/m, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ M = 30 kNm,

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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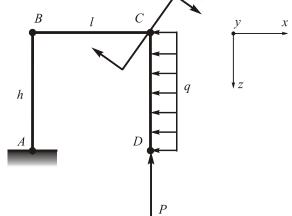
National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 11 Complexity: 1



**Given:** q = 10 kN/m,M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

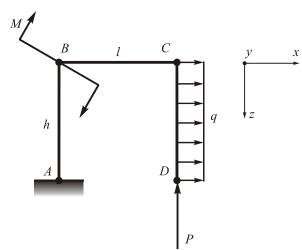
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 10 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

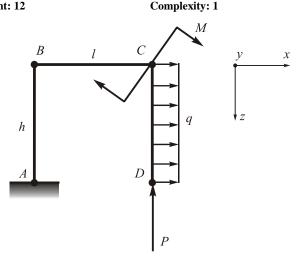
National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation. Full name of the student, group

Variant: 12



**Given:** q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

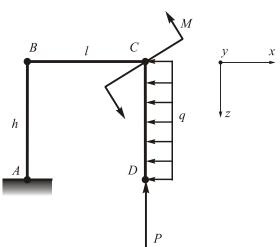
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**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 13 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

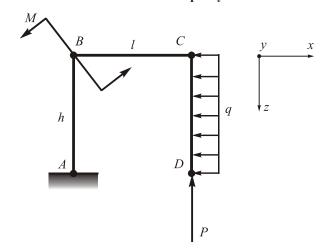
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 15 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

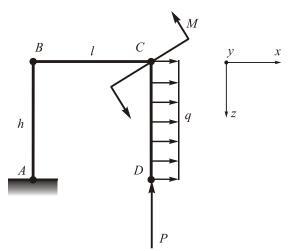
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 14 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group

Variant: 16

Complexity: 1

A

D

P

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

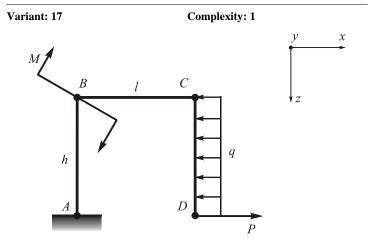
**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

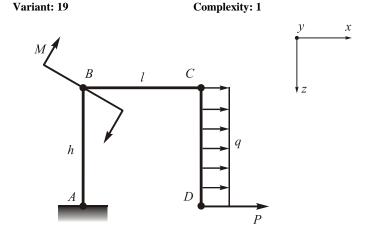
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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

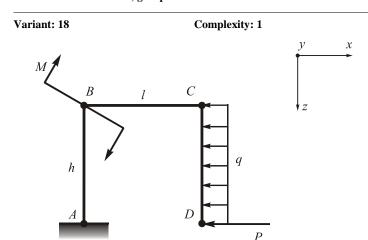
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#### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

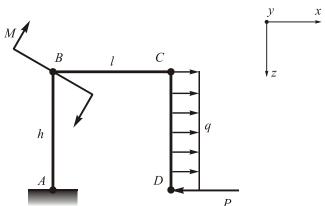
Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group

Variant: 20

Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

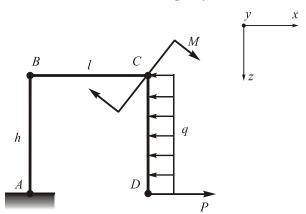
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Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 21 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

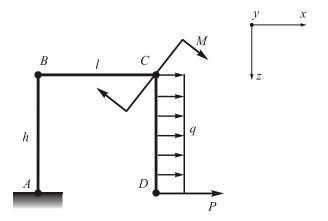
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 23 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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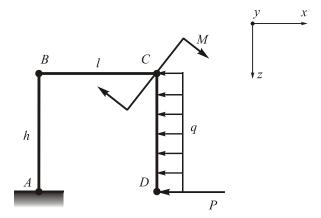
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 22 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

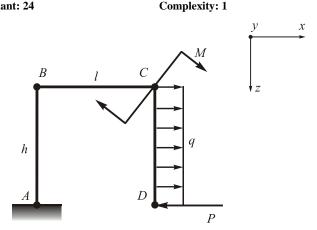
Subject: mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Variant: 24



**Given:** q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

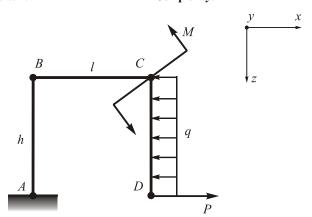
Full name of the lecturer signature

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 25 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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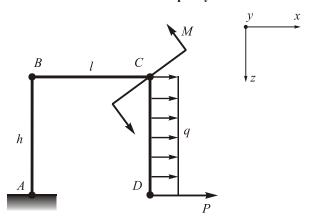
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 27 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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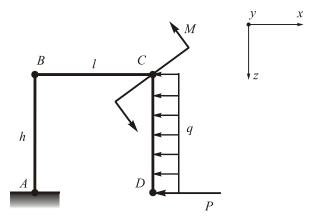
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 26 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

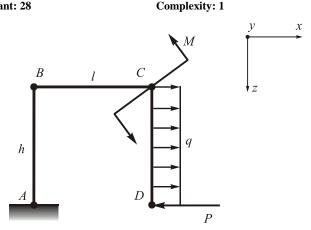
Subject: mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Variant: 28



**Given:** q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

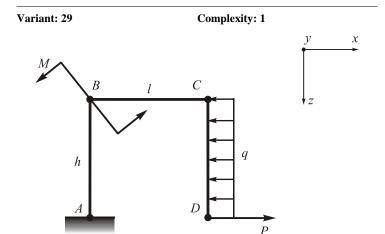
Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

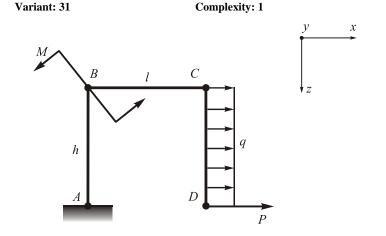
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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 30 Complexity: 1

M

B

C

q

A

D

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group

Variant: 32

Complexity: 1

y
x

A

D

P

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

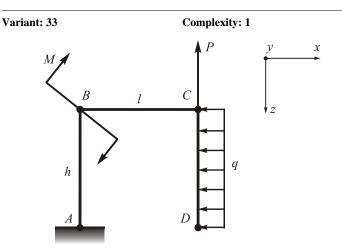
**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

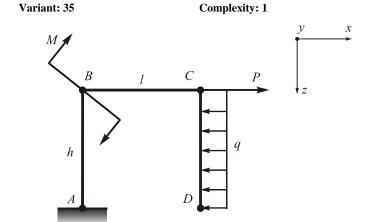
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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

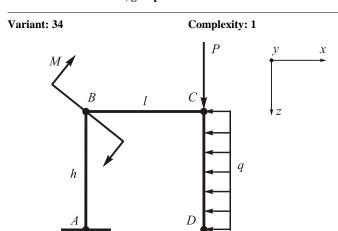
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#### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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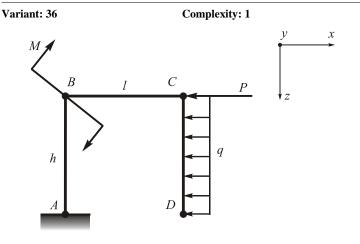
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

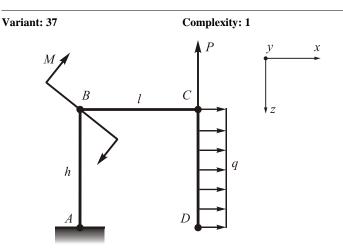
**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

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**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 39

Complexity: 1

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**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

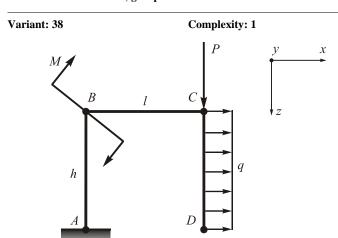
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## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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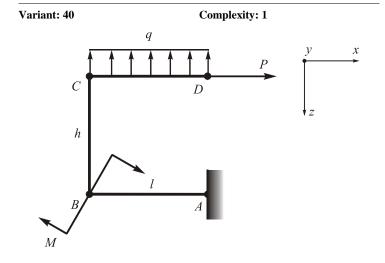
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

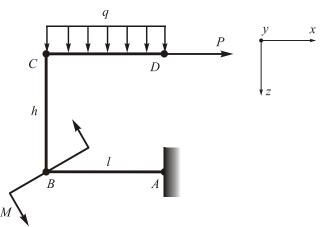
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Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 41 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm,  $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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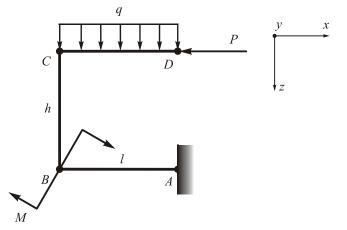
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 43 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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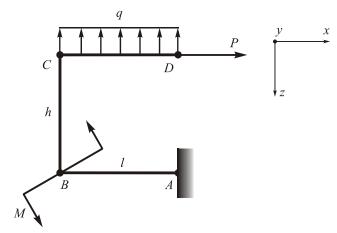
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 42 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

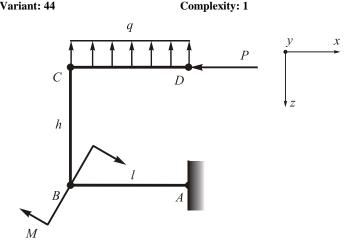
Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group

Variant: 44



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

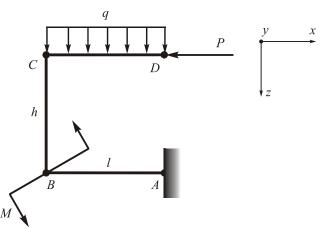
Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 45 Complexity: 1



**Given:**  $q = 10 \text{ kN/m}, \quad M = 30 \text{ kNm}, \quad P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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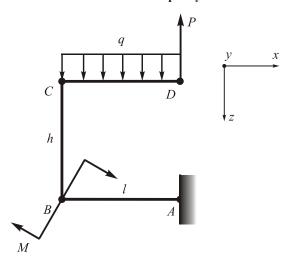
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 47 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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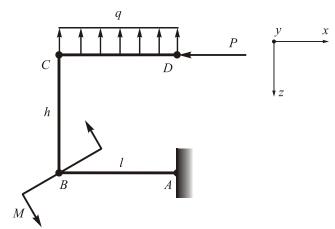
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 46 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Full name of the student, group

Variant: 48

Topic: graphs of shear force and bending moment distribution along the length

Complexity: 1

of a beam in plane bending deformation.

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**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

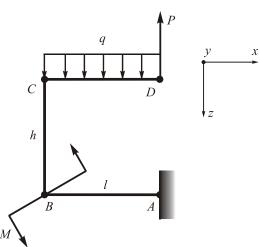
Full name of the lecturer signature

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 49 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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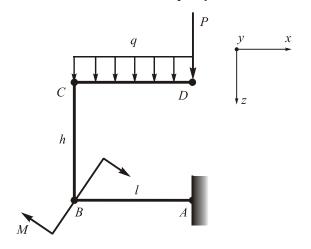
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 51 Complexity: 1



**Given:** q = 10 kN/m,M = 30 kNm,P = 40 kN,l = 2 m, h = 3 m.

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

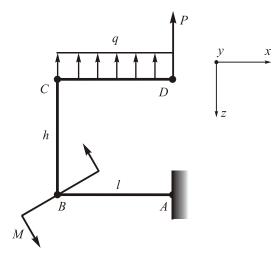
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 50 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

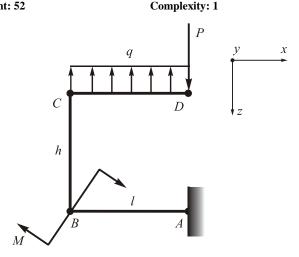
Subject: mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Variant: 52



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

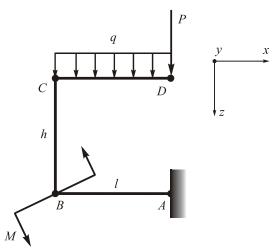
Full name of the lecturer signature

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 53 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

signature Full name of the lecturer

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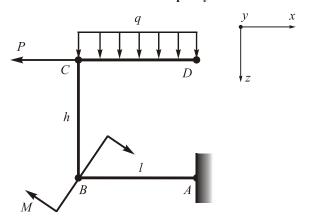
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 55 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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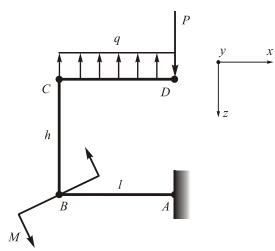
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 54 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

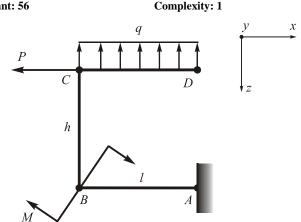
Subject: mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Variant: 56



**Given:** q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

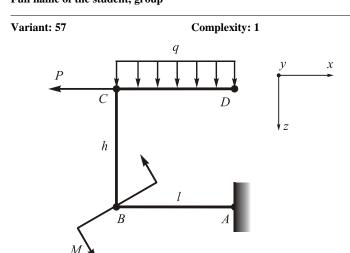
Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 59 Complexity: 1 h

**Given:** q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 58 Complexity: 1 Ch В

Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

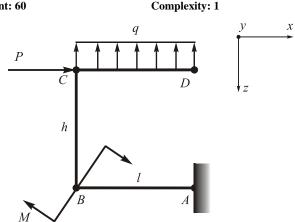
Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group

Variant: 60



**Given:** q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

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**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 61 Complexity: 1  $P \qquad \qquad P \qquad \qquad V \qquad X$   $D \qquad \qquad D \qquad \qquad V \qquad X$   $A \qquad \qquad B \qquad A$ 

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

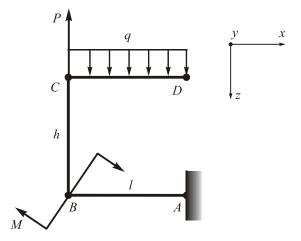
**Subject:** mechanics of materials **Document:** home problem

Mark:

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 63 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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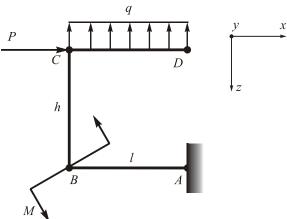
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 62 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

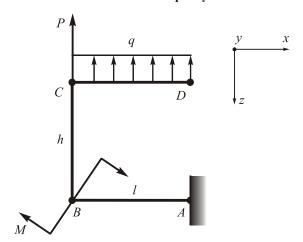
**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group

Variant: 64 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

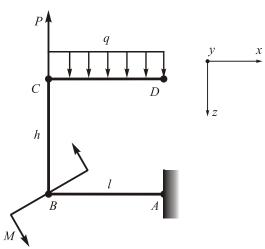
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**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 65 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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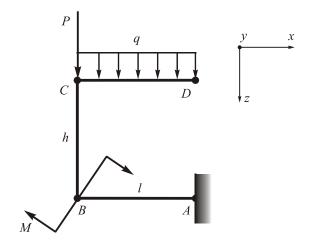
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 67 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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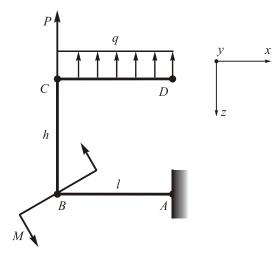
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 66 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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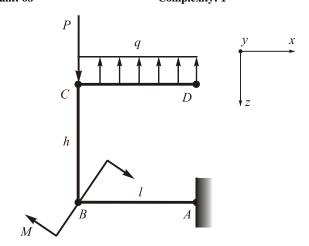
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation. **Full name of the student, group** 

Variant: 68 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

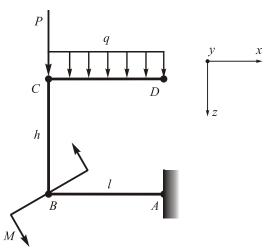
Full name of the lecturer signature

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 69 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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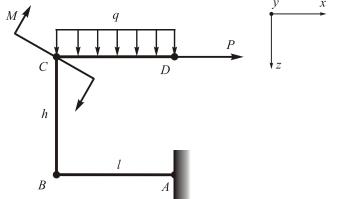
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Complexity: 1 Variant: 71



**Given:** q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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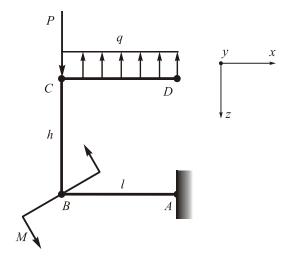
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 70 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm,P = 40 kN, l = 2 m, h = 3 m.

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

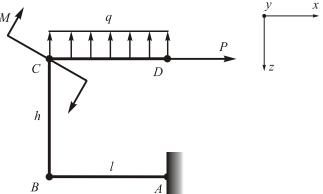
Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group

Variant: 72 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

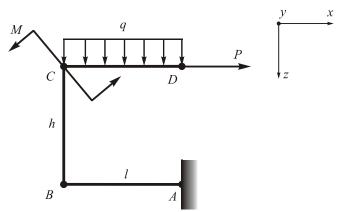
Full name of the lecturer signature

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 73 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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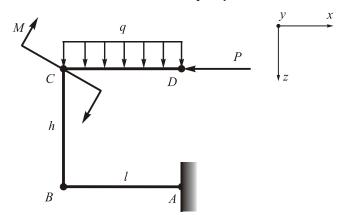
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 75 Complexity: 1



**Given:** q = 10 kN/m,M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

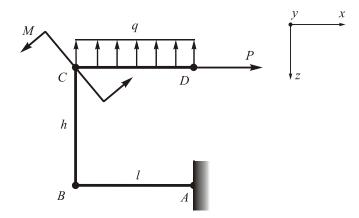
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 74 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

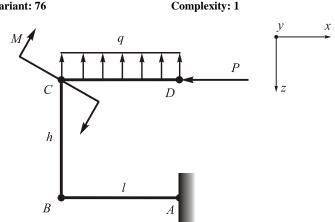
Subject: mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Variant: 76



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

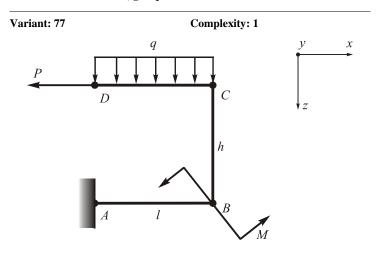
Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

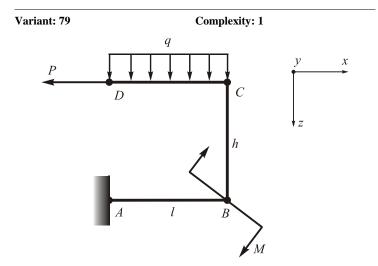
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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

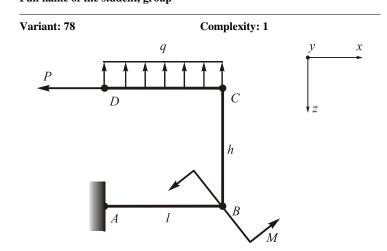
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### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation. Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

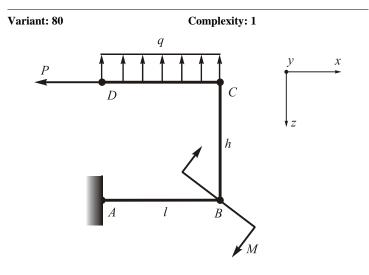
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

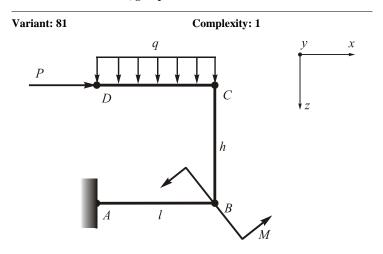
**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

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**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

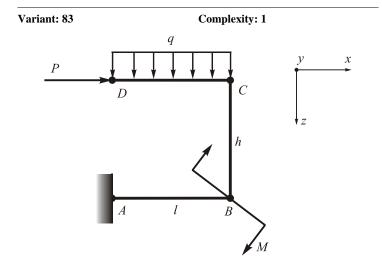
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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

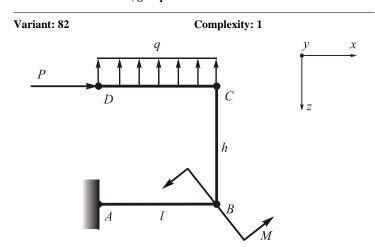
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### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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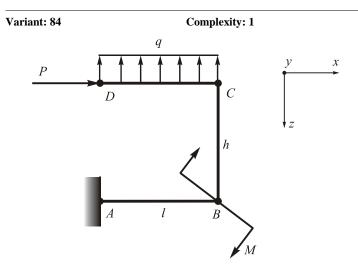
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

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**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

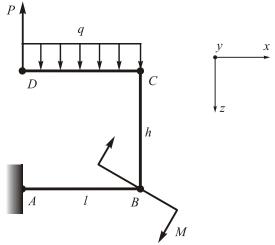
**Subject:** mechanics of materials **Document:** home problem

Mark:

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 87 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 86 Complexity: 1

P

Q

C

L

A

L

B

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

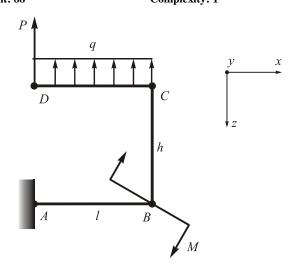
**Subject:** mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Variant: 88 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

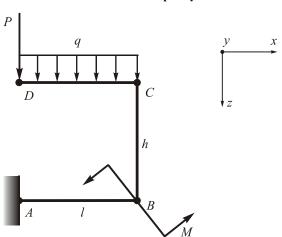
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**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 89 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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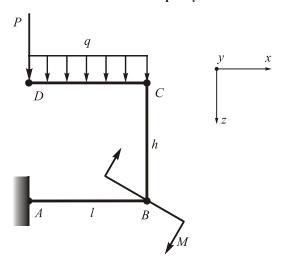
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 91 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 90 Complexity: 1

P

Q

C

D

C

h

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

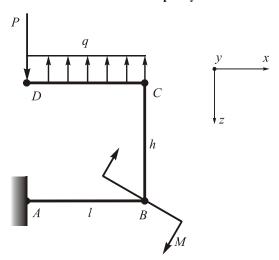
**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group

Variant: 92 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

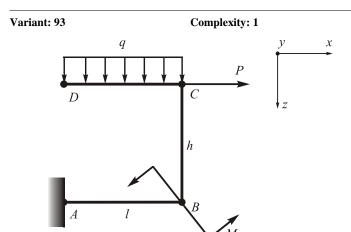
**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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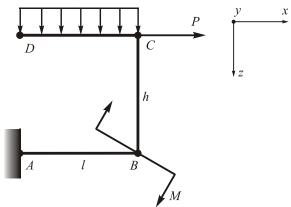
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 95 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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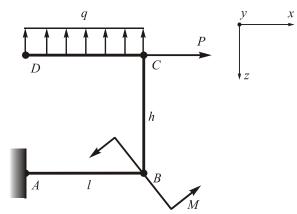
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 94 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

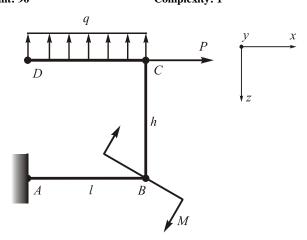
**Subject:** mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Variant: 96 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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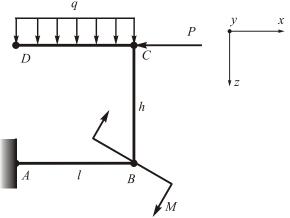
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 99 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

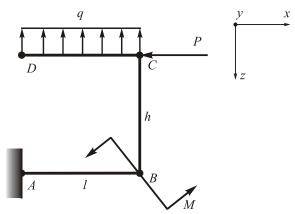
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 98 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

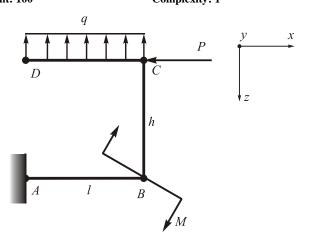
**Subject:** mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Variant: 100 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

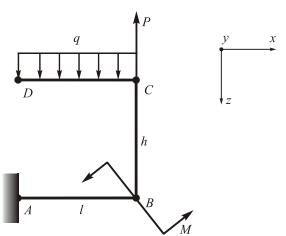
Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 101 Complexity: 1



**Given:**  $q = 10 \text{ kN/m}, \quad M = 30 \text{ kNm}, \quad P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

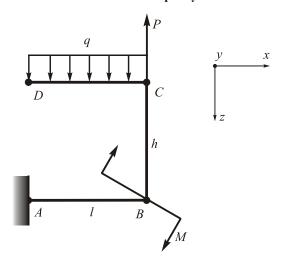
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 103 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

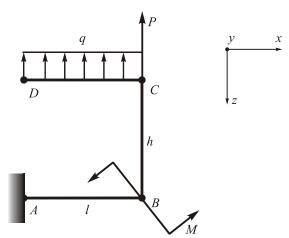
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 102 Complexity: 1



**Given:**  $q = 10 \text{ kN/m}, \quad M = 30 \text{ kNm}, \quad P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}$ 

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

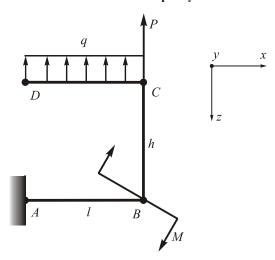
**Subject:** mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Variant: 104 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

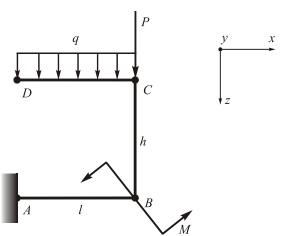
Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

of a beam in plane bending deformation Full name of the student, group

Variant: 105 Complexity: 1



**Given:**  $q = 10 \text{ kN/m}, \quad M = 30 \text{ kNm}, \quad P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

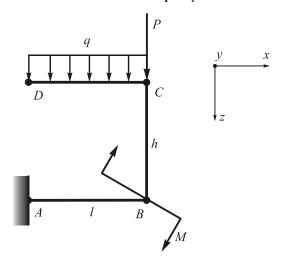
**Subject:** mechanics of materials **Document:** home problem

Mark:

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 107 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

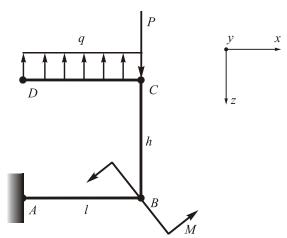
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 106 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

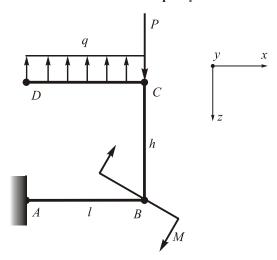
**Subject:** mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Variant: 108 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

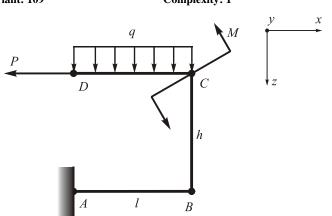
Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

of a beam in plane bending deformation **Full name of the student, group** 

Variant: 109 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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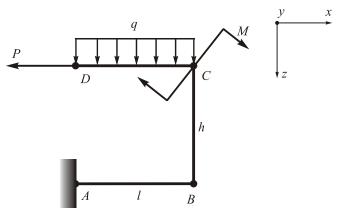
# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 111 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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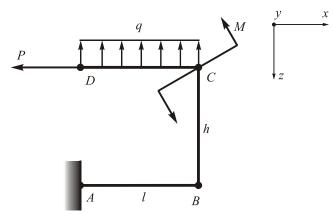
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 110 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

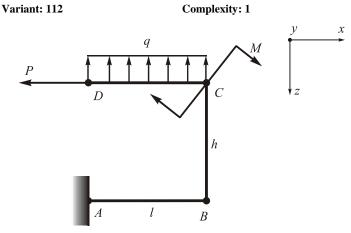
**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group

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**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 115

Complexity: 1

P

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**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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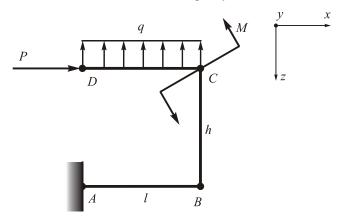
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 114 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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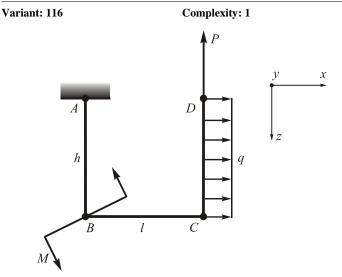
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group



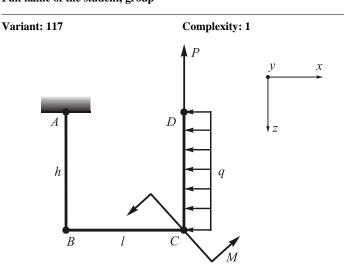
**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

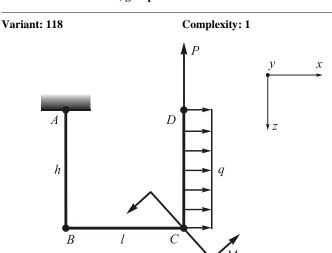
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### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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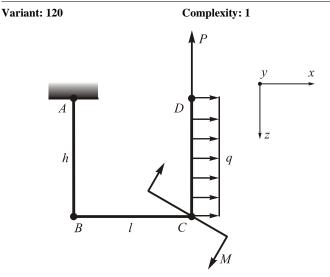
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

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Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

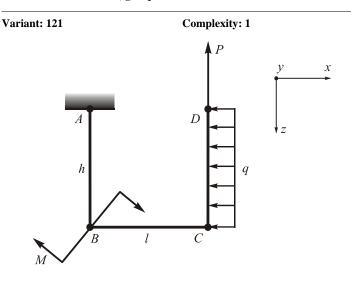
**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

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**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

h

Variant: 123

Complexity: 1

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**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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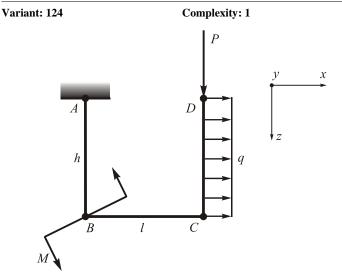
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

of a beam in plane bending deformation Full name of the student, group

Variant: 125

Complexity: 1

P

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x

h

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

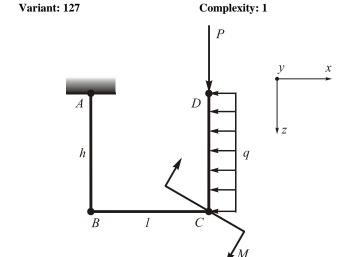
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**Topic:** graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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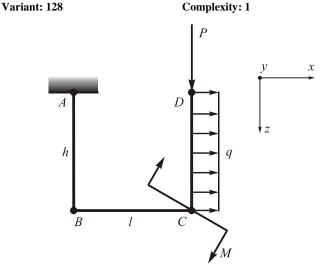
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

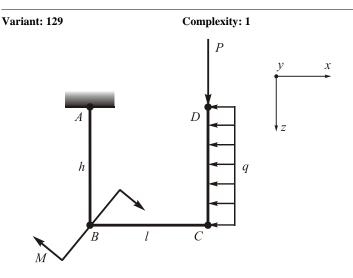
**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

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**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 131

Complexity: 1

P

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Complexity: 1

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

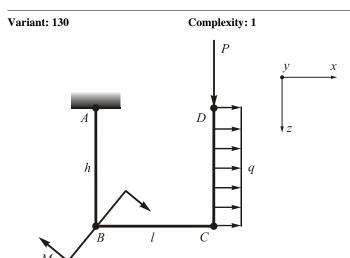
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### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

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Full name of the lecturer signature

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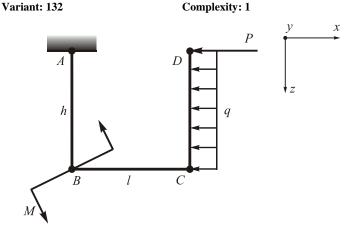
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

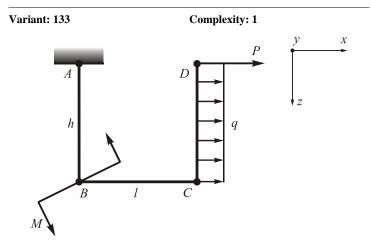
**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

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**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

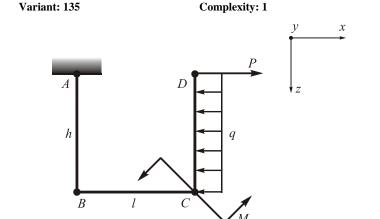
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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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#### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

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Full name of the lecturer signature

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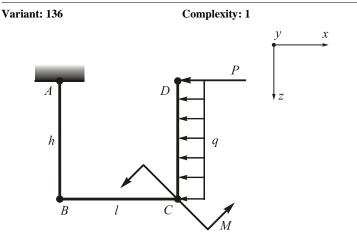
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

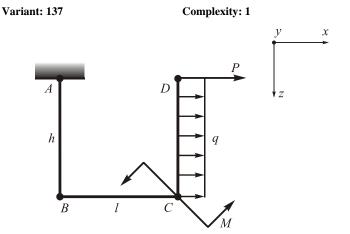
**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

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Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

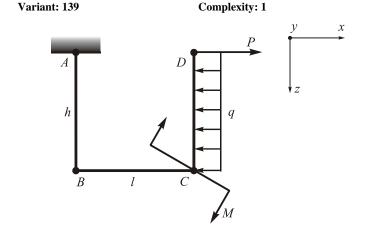
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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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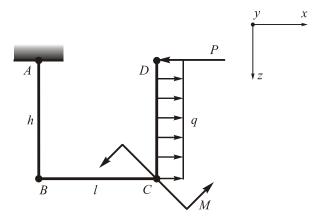
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 138 Complexity: 1



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

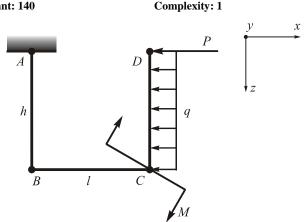
Subject: mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group

Variant: 140



Given: q = 10 kN/m, M = 30 kNm, $P = 40 \text{ kN}, \quad l = 2 \text{ m}, h = 3 \text{ m}.$ 

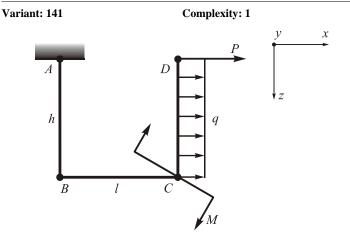
Goal: obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

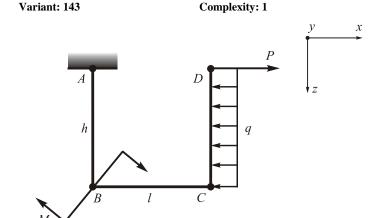
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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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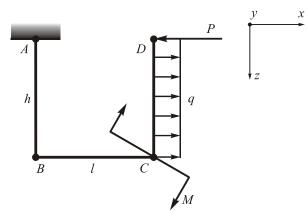
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 142 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:

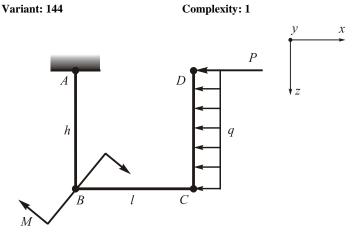
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Full name of the student, group

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

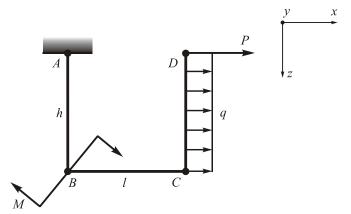
Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 145 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

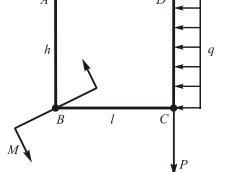
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# National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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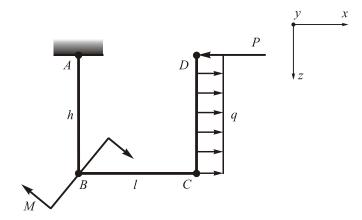
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 146 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

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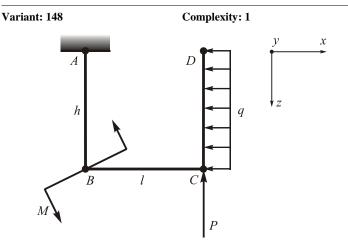
## National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

Topic: graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation.

Full name of the student, group



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

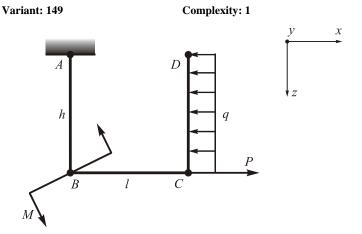
Full name of the lecturer signature

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length

of a beam in plane bending deformation. Full name of the student, group

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**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature

Mark:			

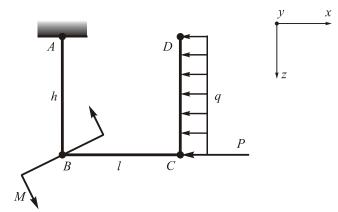
### National aerospace university "Kharkiv Aviation Institute" Department of aircraft strength

**Subject:** mechanics of materials **Document:** home problem

**Topic:** graphs of shear force and bending moment distribution along the length of a beam in plane bending deformation.

Full name of the student, group

Variant: 150 Complexity: 1



**Given:** q = 10 kN/m, M = 30 kNm, P = 40 kN, l = 2 m, h = 3 m.

**Goal:** obtain the equations of shear and normal forces and also bending moment in the cross-sections of a frame and design the graphs of their distribution along the frame portion length.

Full name of the lecturer signature