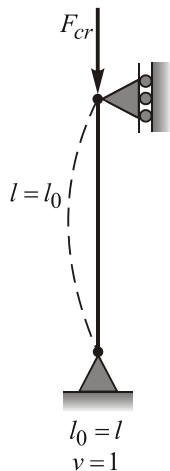


**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 1** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

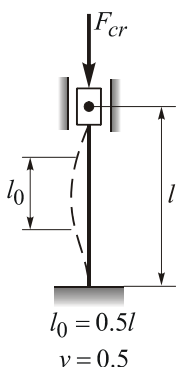
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 3** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

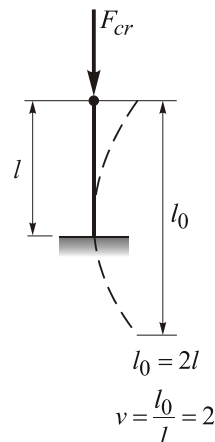
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 2** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

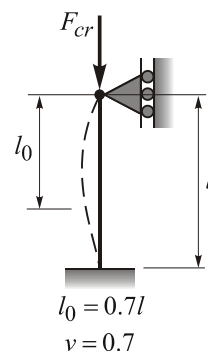
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 4** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

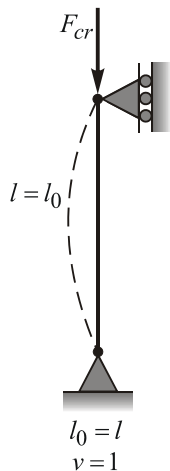
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 5** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

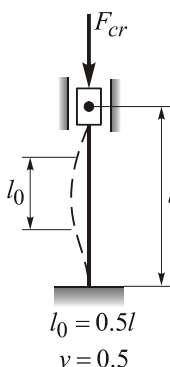
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 7** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

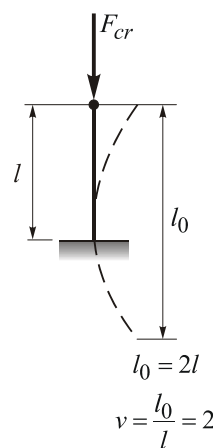
**signature**

**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 6** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

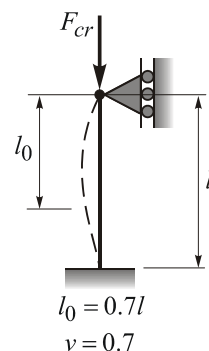
**signature**

**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 8** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

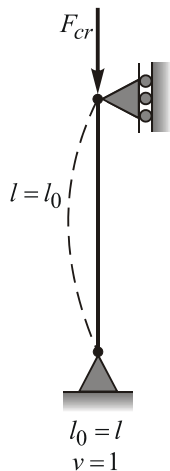
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 9** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

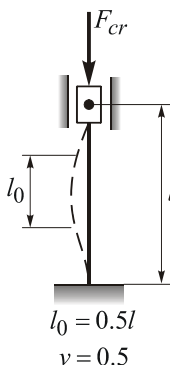
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 11** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

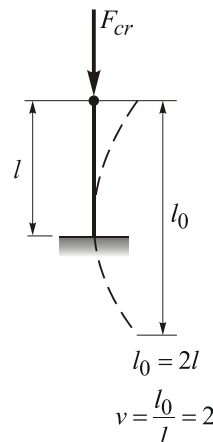
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 10** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

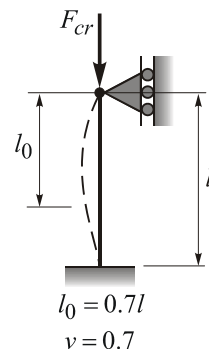
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 12** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

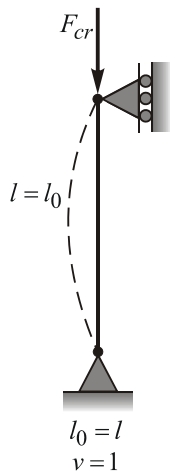
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 13** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

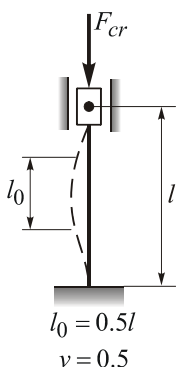
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 15** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

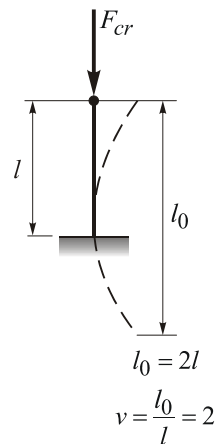
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 14** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

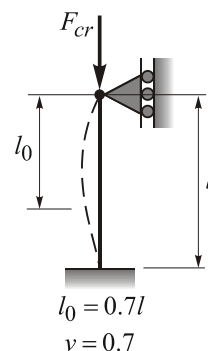
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 16** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

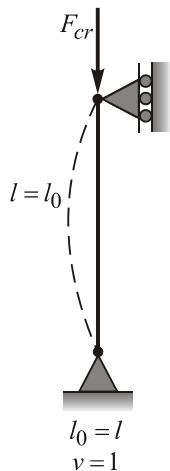
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 17** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

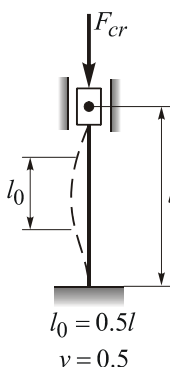
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 19** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

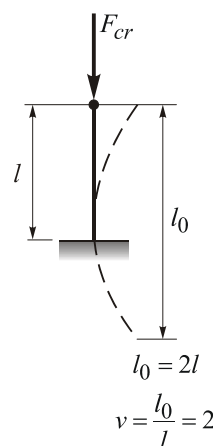
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 18** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

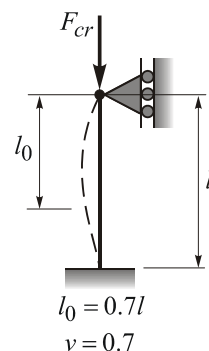
**signature**

**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 20** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

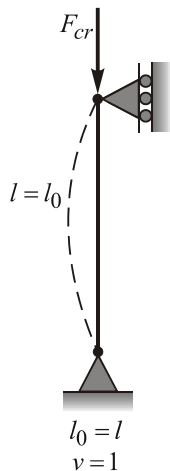
**signature**

**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 21** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

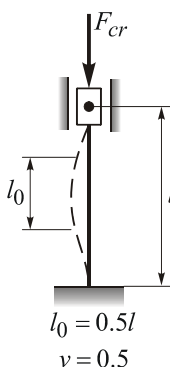
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 23** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

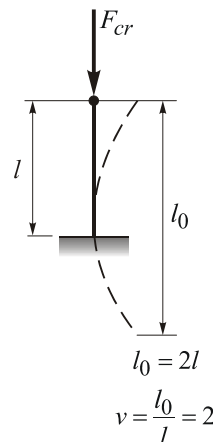
**signature**

**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 22** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

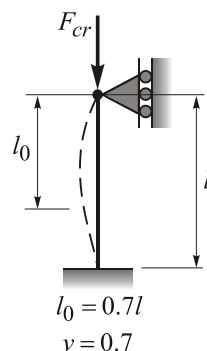
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 24** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

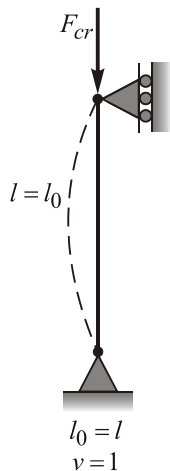
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 25** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

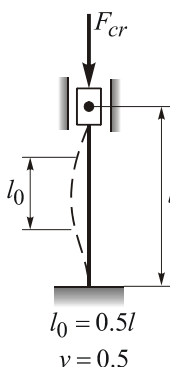
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 27** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

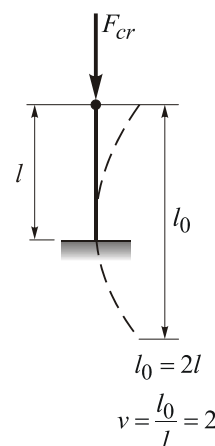
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 26** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

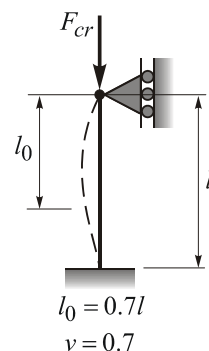
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 28** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

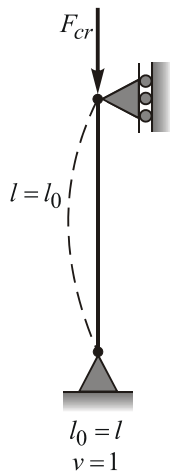
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 29** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

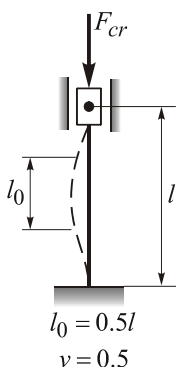
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 31** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

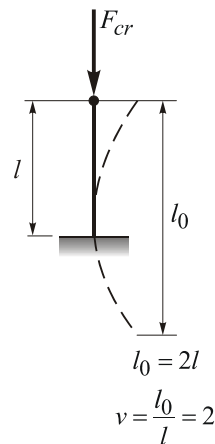
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 30** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

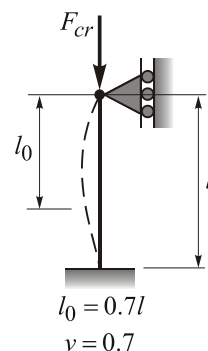
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 32** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

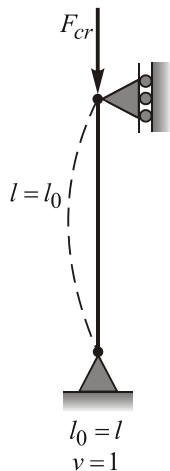
**Full name of the lecturer**

**Mark:**



**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 33** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

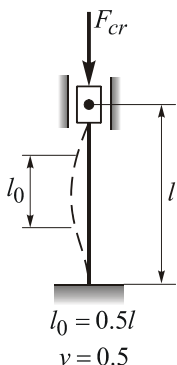
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 35** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

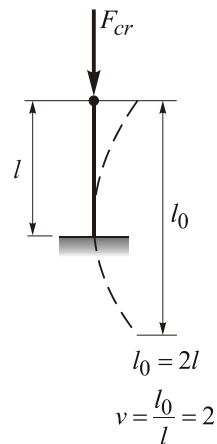
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 34** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

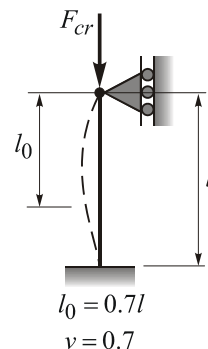
**signature**

**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 36** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

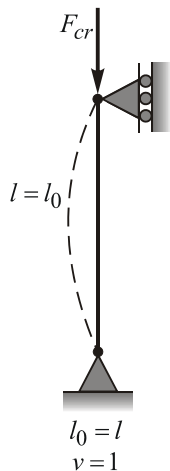
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 37** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

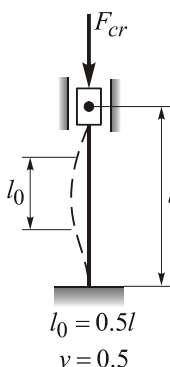
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 39** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

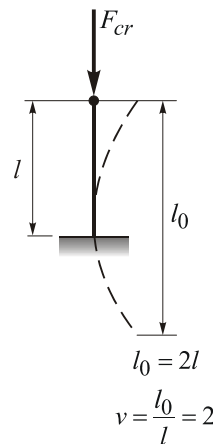
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 38** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

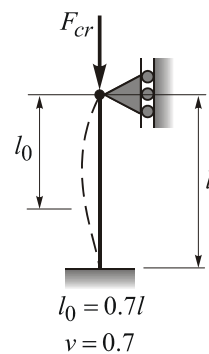
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 40** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

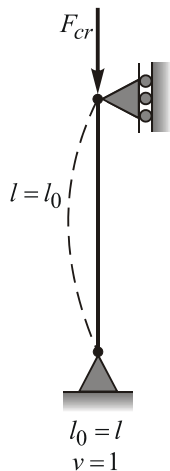
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 41** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

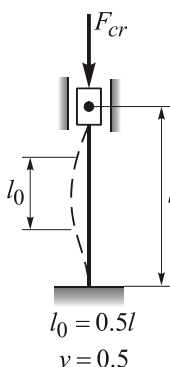
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 43** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

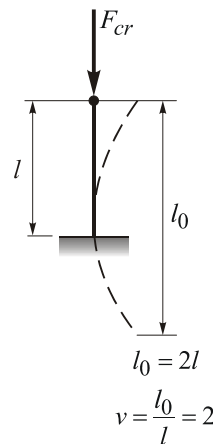
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 42** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

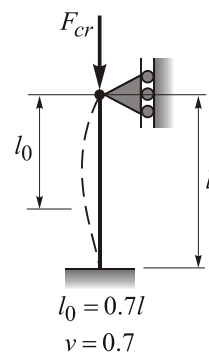
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 44** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

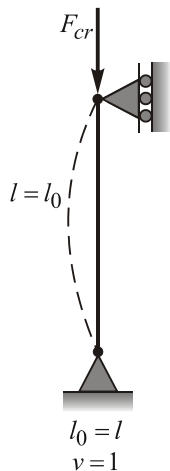
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 45**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

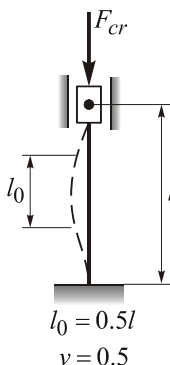
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 47**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

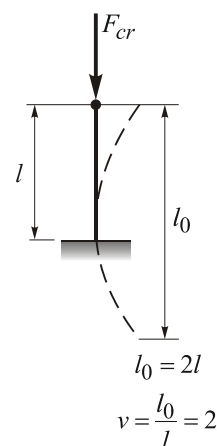
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 46**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

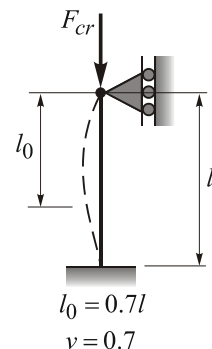
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 48**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

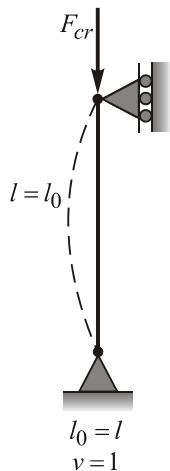
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 49** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

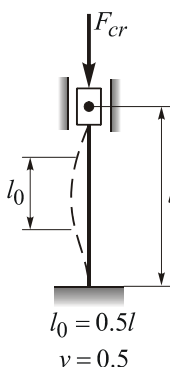
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Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 51** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

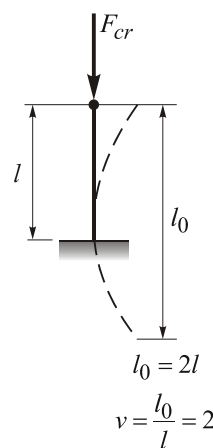
signature

Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 50** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

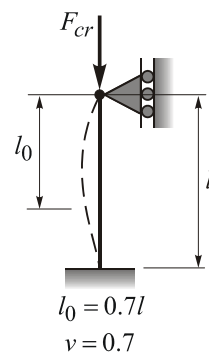
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Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 52** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

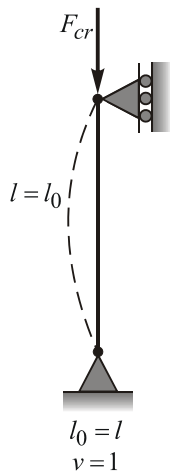
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 53**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

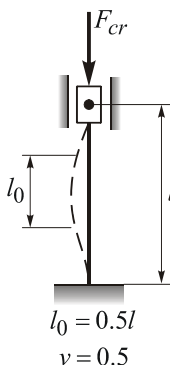
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 55**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

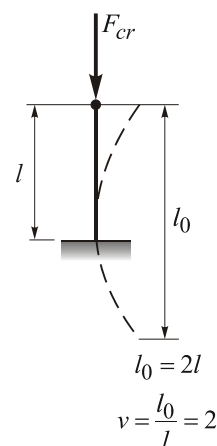
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 54**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

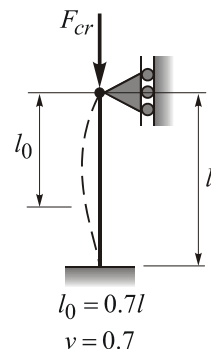
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 56**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

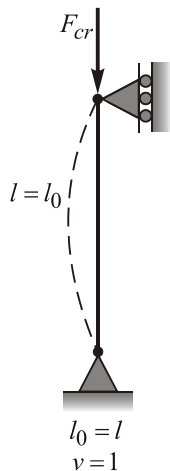
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 57** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

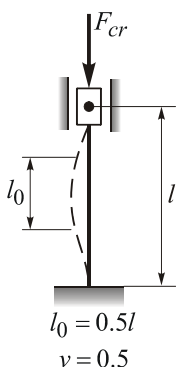
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 59** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

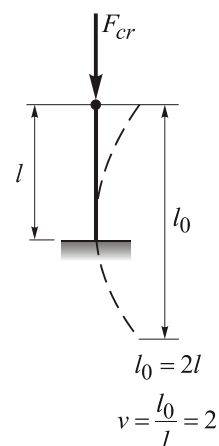
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 58** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

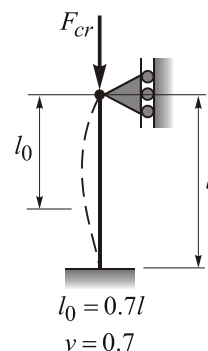
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 60** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

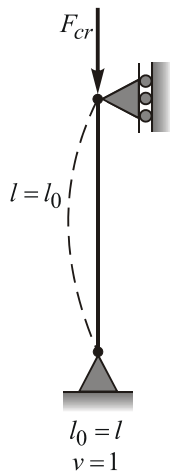
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 61** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

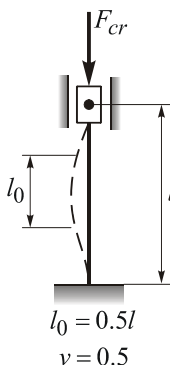
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 63** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

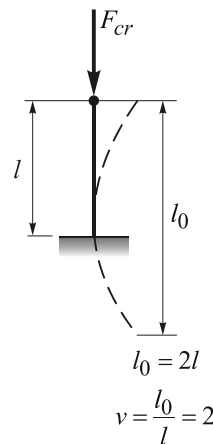
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 62** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

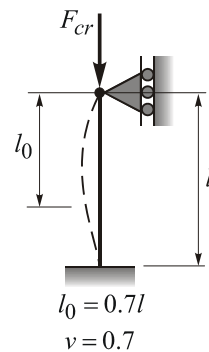
**signature**

**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 64** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

**Full name of the lecturer**

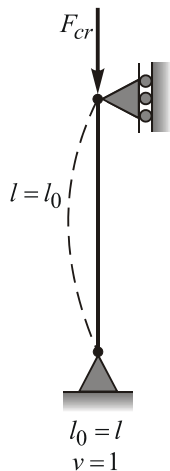
**Mark:**



**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 65**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

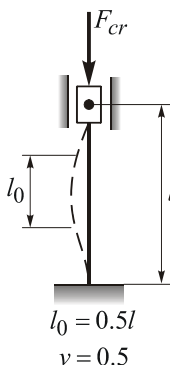
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 67**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

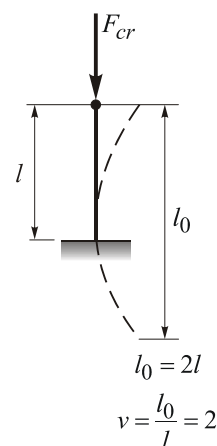
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 66**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

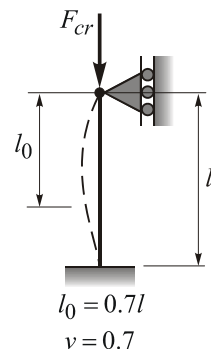
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 68**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

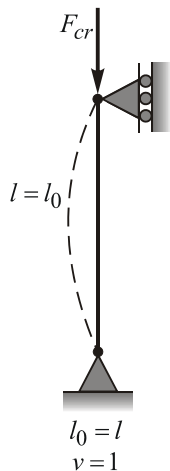
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Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 69** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

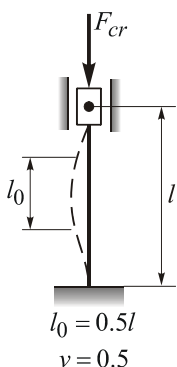
**signature**

**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 71** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

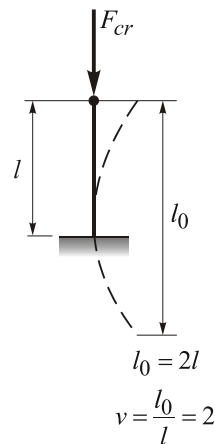
**signature**

**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 70** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

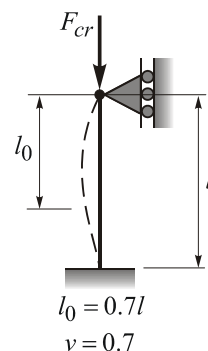
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 72** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

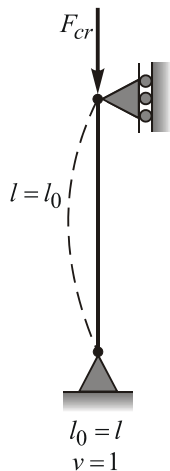
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 73** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

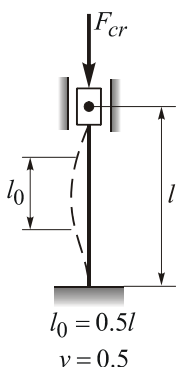
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 75** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

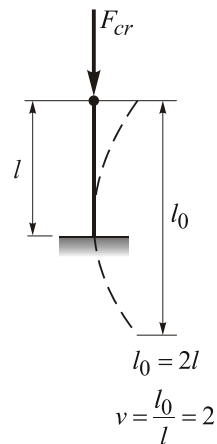
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 74** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

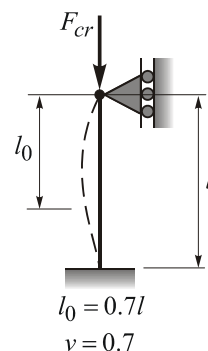
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 76** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

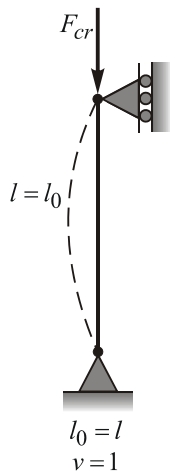
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 77** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

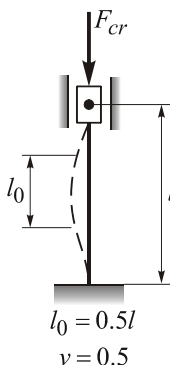
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 79** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

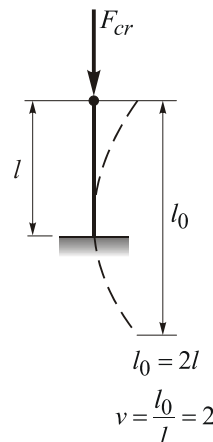
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 78** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

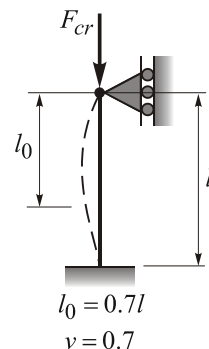
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 80** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

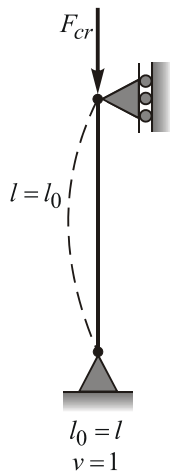
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 81**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

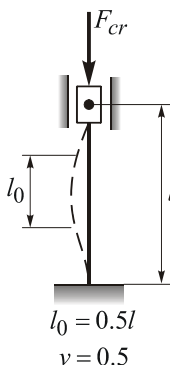
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 83**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

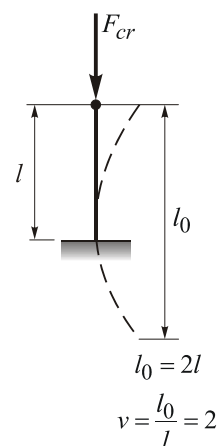
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 82**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

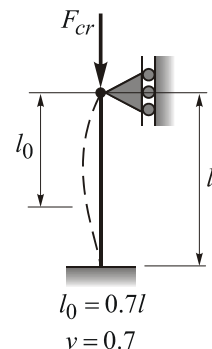
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 84**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

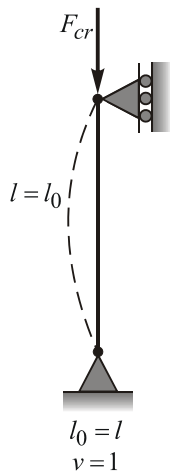
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 85**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

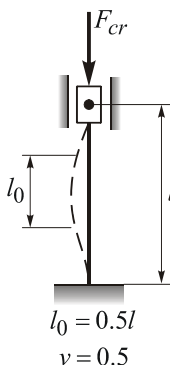
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 87**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

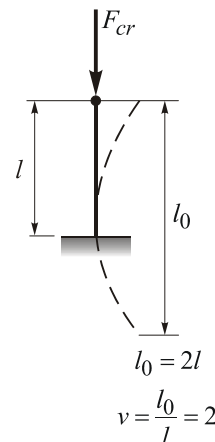
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 86**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

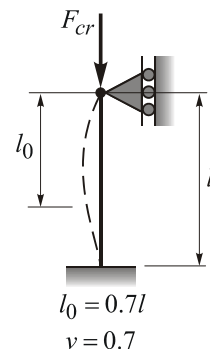
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 88**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

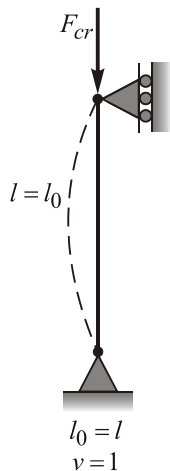
**signature**

**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 89** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

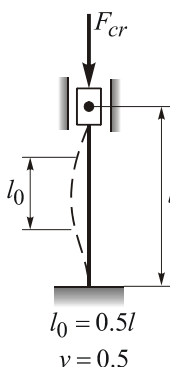
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 91** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

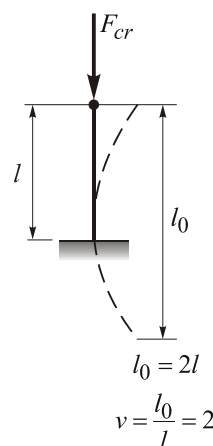
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 90** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

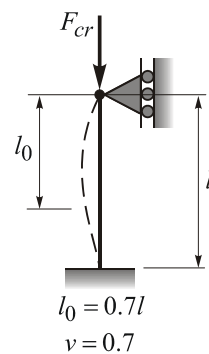
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 92** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

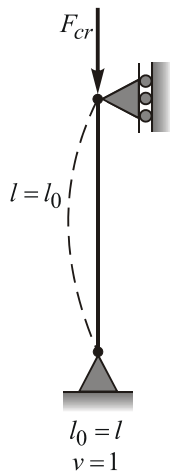
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 93** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

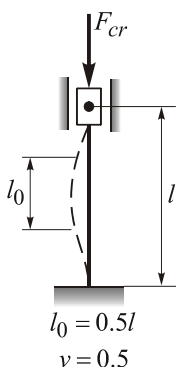
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 95** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

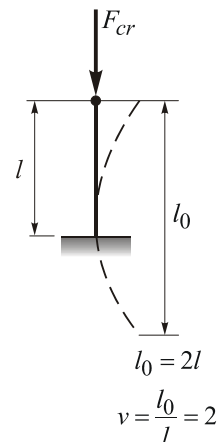
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 94** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

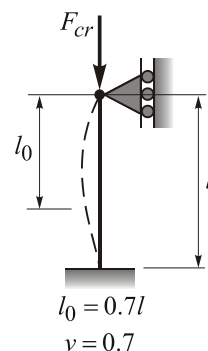
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 96** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

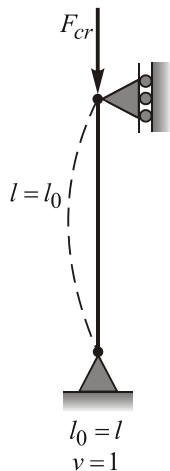
**Full name of the lecturer**

**Mark:**



**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 97** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

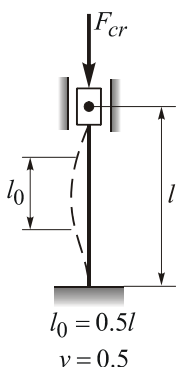
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 99** **Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

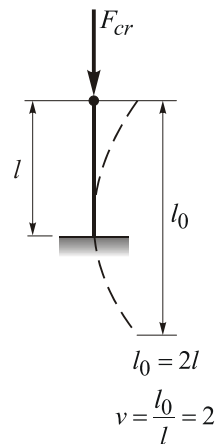
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 98** **Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

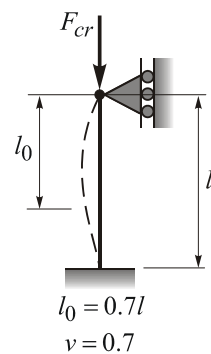
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**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 100** **Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

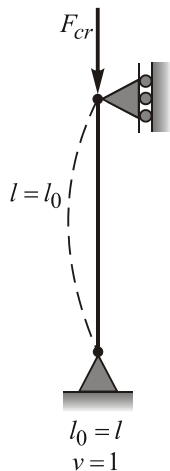
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 101**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

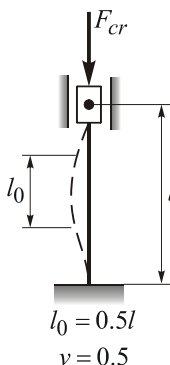
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 103**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

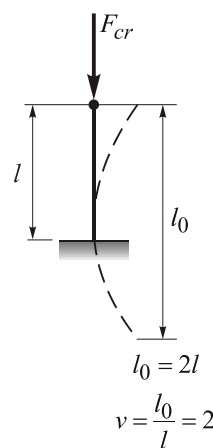
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 102**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

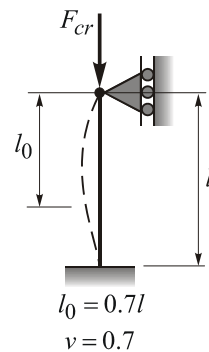
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 104**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

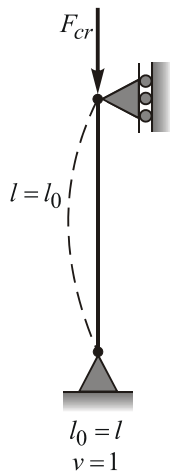
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 105**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

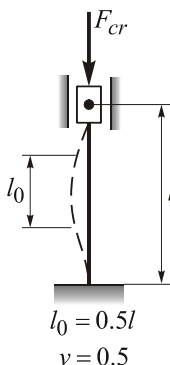
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 107**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

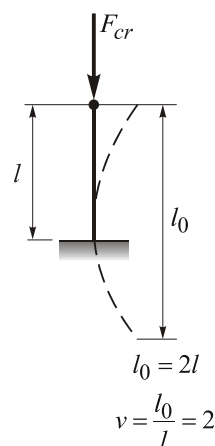
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 106**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

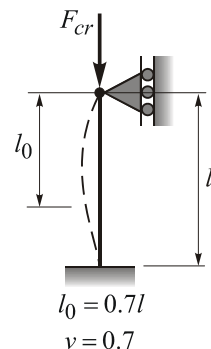
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 108**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

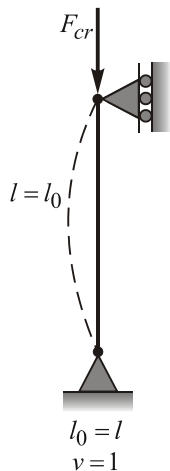
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 109**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

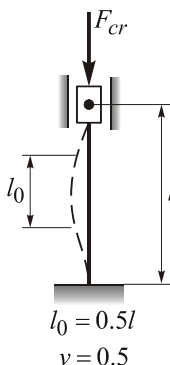
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 111**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

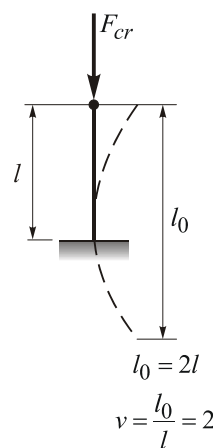
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 110**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

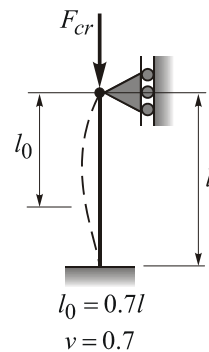
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 112**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

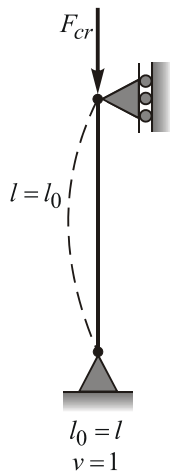
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 113**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

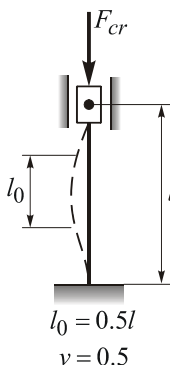
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 115**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

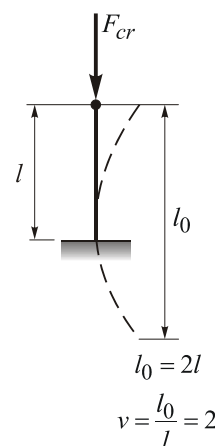
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 114**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

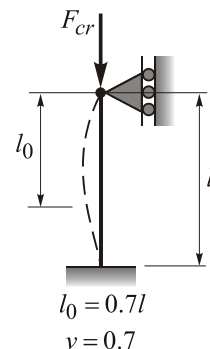
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 116**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

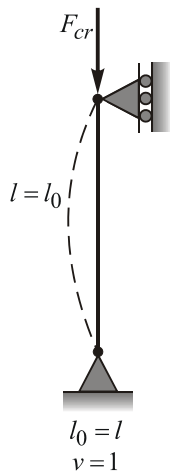
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 117**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

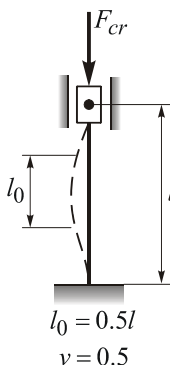
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 119**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

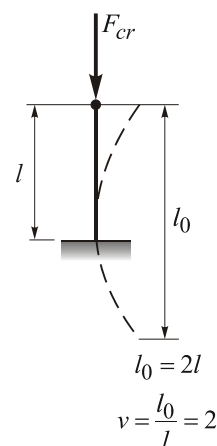
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 118**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

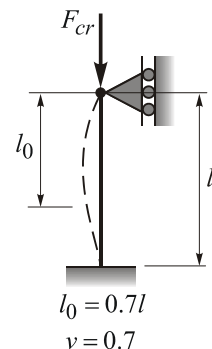
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 120**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

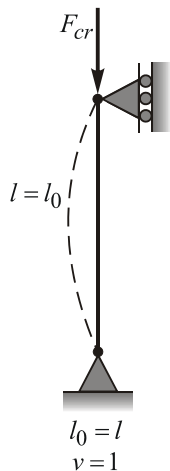
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 121**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

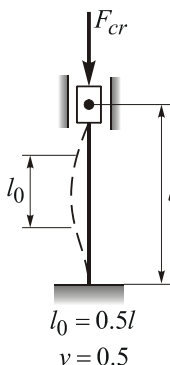
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 123**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

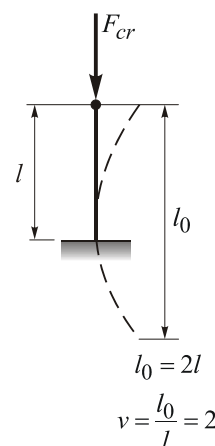
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 122**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

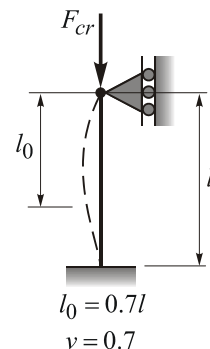
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 124**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

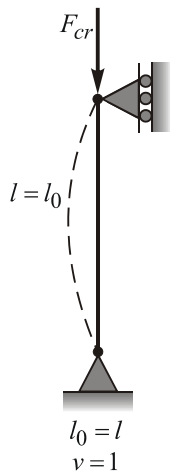
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 125**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

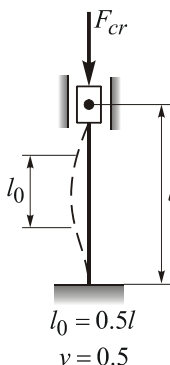
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 127**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

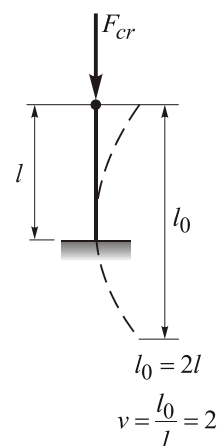
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 126**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

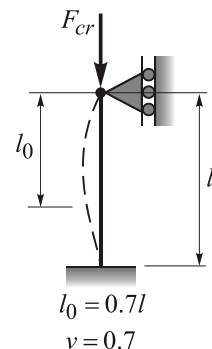
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 128**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

**Full name of the lecturer**

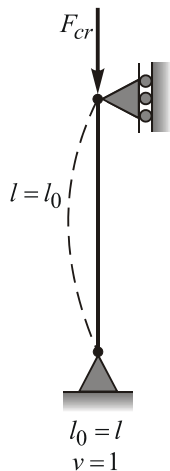
**Mark:**



**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 129**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

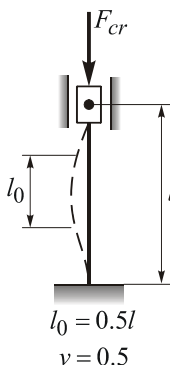
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 131**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

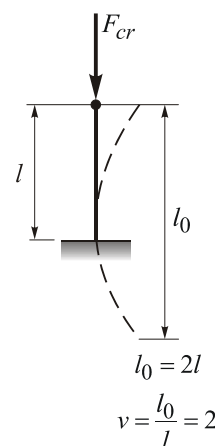
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 130**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

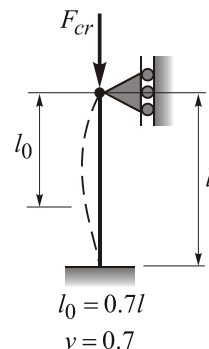
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 132**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

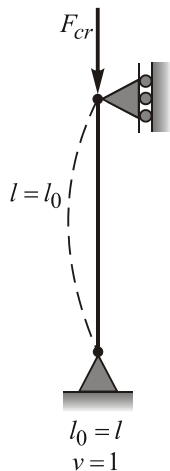
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 133**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

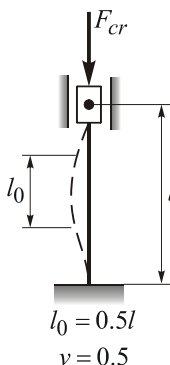
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 135**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

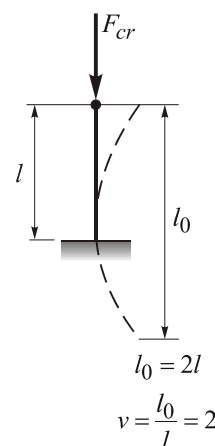
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 134**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

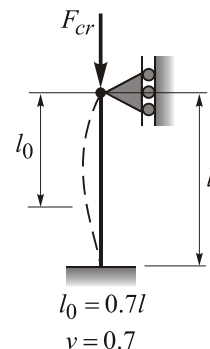
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 136**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

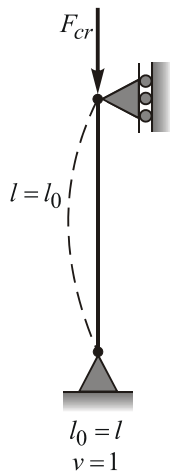
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 137**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

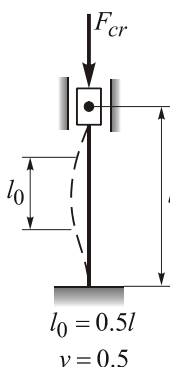
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 139**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

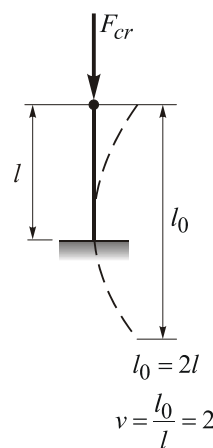
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 138**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

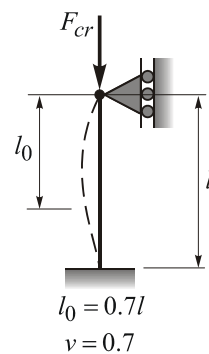
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 140**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

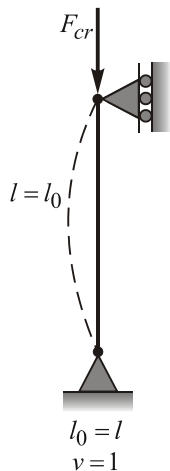
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 141**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

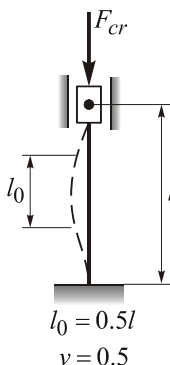
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 143**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

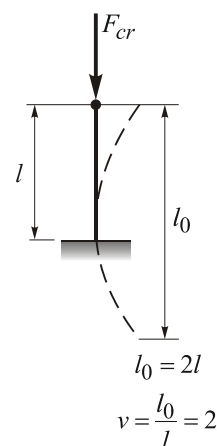
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 142**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

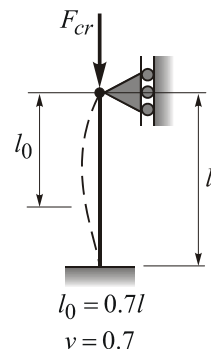
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 144**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

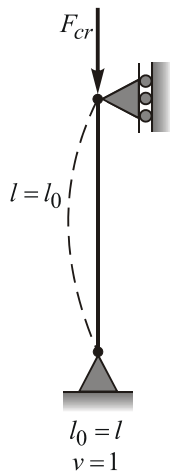
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 145**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: I-beam,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

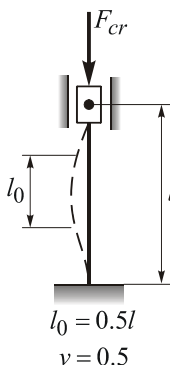
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 147**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

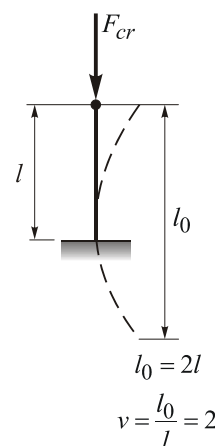
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 146**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: channel,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

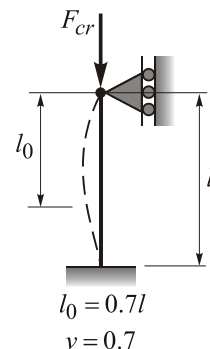
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 148**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: equileg angle,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

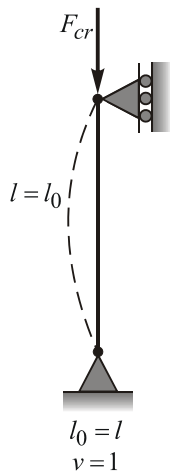
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 149**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: I-beam,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

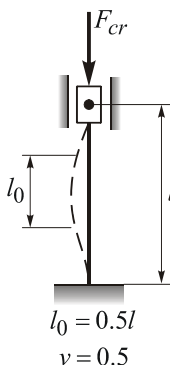
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 151**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

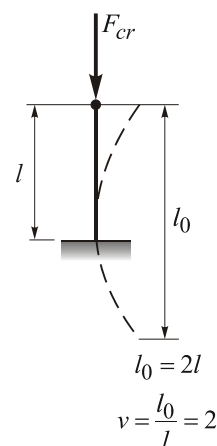
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 150**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: channel,  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

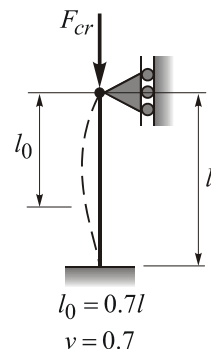
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 152**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: equileg angle,  $F = 200$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

signature

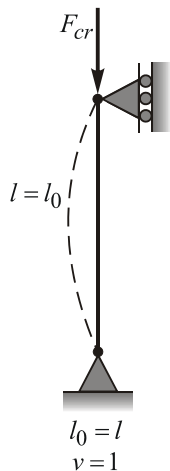
Full name of the lecturer

Mark:

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 153**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: I-beam,  $F = 250$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

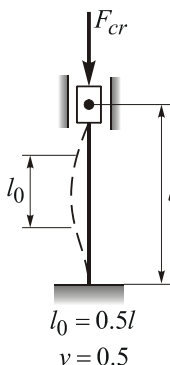
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 155**

**Complexity: 1**



**Given:**  $l = 2$  m, cross-section: rectangle ( $h/b = 2$ ),  $F = 400$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

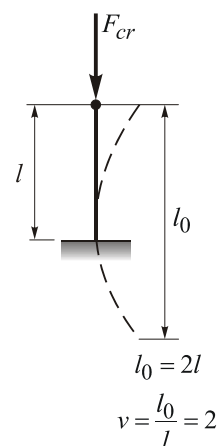
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 154**

**Complexity: 1**



**Given:**  $l = 3$  m, cross-section: channel,  $F = 350$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

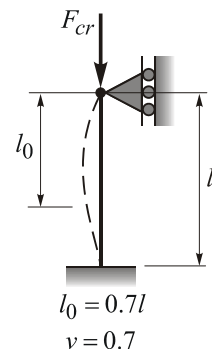
**Full name of the lecturer**

**Mark:**

**Subject:** mechanics of materials  
**Document:** home problem  
**Topic:** Buckling and Stability of Compressed Rods.  
**Full name of the student, group**

**Variant: 156**

**Complexity: 1**



**Given:**  $l = 2.5$  m, cross-section: equileg angle,  $F = 100$  kN.

**Goal:** 1) determine the cross-sectional dimensions; 2) calculate the value of critical force for selected column; 3) calculate the value of allowable load for selected column.

**signature**

**Full name of the lecturer**

**Mark:**