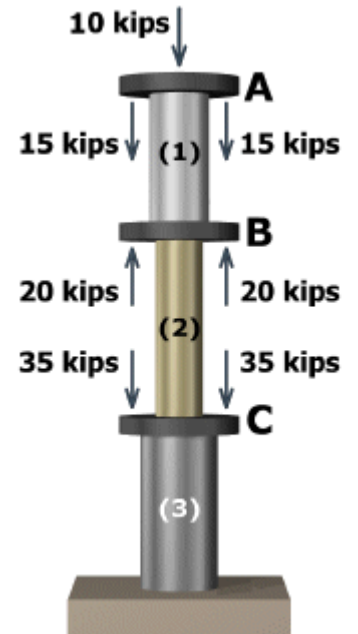1. Select the internal force (magnitude only) experienced by members (1), (2) and (3) from the list of available options. *(write letter in blank)*

Member (1): ___e___

Member (2): ___a___

Member (3): ___h___

a.   0 kips
b.   10 kips
c.   20 kips
d.   30 kips
e.   40 kips
f.   50 kips
g.   60 kips
h.   70 kips
i.   80 kips
j.   90 kips
k.   100 kips
l.   110 kips

10 kips

A

15 kips   (1)   15 kips

B

20 kips   20 kips

(2)

35 kips   35 kips

C

(3)

2. A rod having two different diameters is loaded by an axial force P. If the diameter of segment (1) is d_1, and the diameter of segment (2) is d_2, select the equation from the following list that accurately describes the relationship between the normal stress σ_1 and normal stress σ_2 in segments (1) and (2), respectively. *(circle one)*

a. $\sigma_1 = \sigma_2$

b. $d_1\sigma_1 = d_2\,\sigma_2$

c. $d_2\,\sigma_1 = d_1\sigma_2$

d. $d_1^2\,\sigma_1 = d_2^2\,\sigma_2$

e. $d_2^2\,\sigma_1 = d_1^2\,\sigma_2$

P ←   (2)   (1)

C   B   A