

## M1 Concept Question 1

In the context of designing commercial aerospace vehicles, what is the approximate cost of a human life?

1. \$30,000
2. \$300,000
3. \$3,000,000
4. \$30,000,000
5. \$300,000,000
6. Priceless

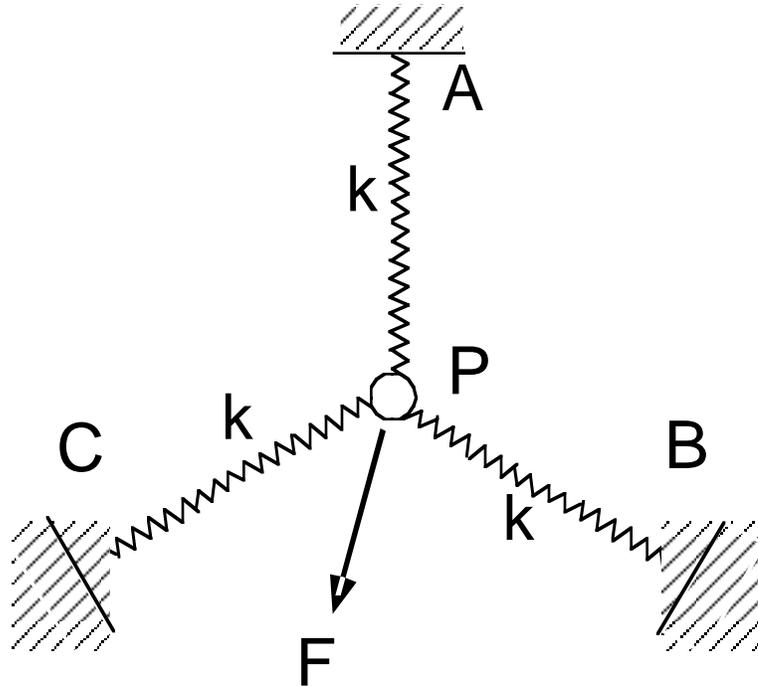
## M1 Concept Question 2

What is the approximate cost of a kilogram of weight on a fighter aircraft (e.g. F18 E/F)?

1. \$3/kg
2. \$30/kg
3. \$300/kg
4. \$3,000/kg
5. \$30,000/kg
6. \$300,000/kg
7. \$3,000,000/kg

## M1 Concept Question 3

For the assembly of three linear springs (i.e. obey Hooke's law  $F=k\delta$ ), connected at a point with a load applied as shown, which of the following statements are true if it is known that the connection point, P, does not accelerate?



A. The forces applied by the springs and the applied forces on point P are in equilibrium.

B. The extension in each of the springs is governed by  $F=k\delta$

C. The extensions and rotations of the springs will allow them to remain attached at P

1. A only

2. B only

3. C only

4. A and B only

5. B and C only

6. A and C only

7. A, B and C

8. None of the above

9. I do not know/do not understand.