

(e) A different spring has a spring constant of 18 N/m

When an apple is hung from the spring, the spring extends 6.4 cm

The spring does not go past the limit of proportionality.

Calculate the force exerted by the apple on the spring using the equation:

$$\text{force} = \text{spring constant} \times \text{extension}$$

$$6.4 \text{ cm} \rightarrow 0.064 \text{ m}$$

$$\text{force} = 18 \times 0.064 = 1.152 \text{ N} \text{ or } 1.2 \text{ N}$$

Force = 1.2 N

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(3)