

$$GPE = mgh \quad u = 8ms^{-1}$$

$$KE = \frac{1}{2}mv^2 \quad m = 0.1kg$$

$$r = 0.5m$$

$$GPE = 0.1 \times 9.8 \times 1 = 0.98$$

$$KE = 0.5 \times 0.1 \times v^2 = 2.22 \quad v^2 = 44.4$$

$$v = 6.66$$

$$\text{Total} = 3.2$$

$$h = 0.5 - 0.5\cos 215 = 0.91$$

$$GPE = 0.1 \times 9.8 \times 0.91 = 0.89$$

$$KE = 0.5 \times 0.1 \times v^2 = 2.31 \quad v^2 = 46.2$$

$$v = 6.79$$

$$\text{Total} = 3.2$$

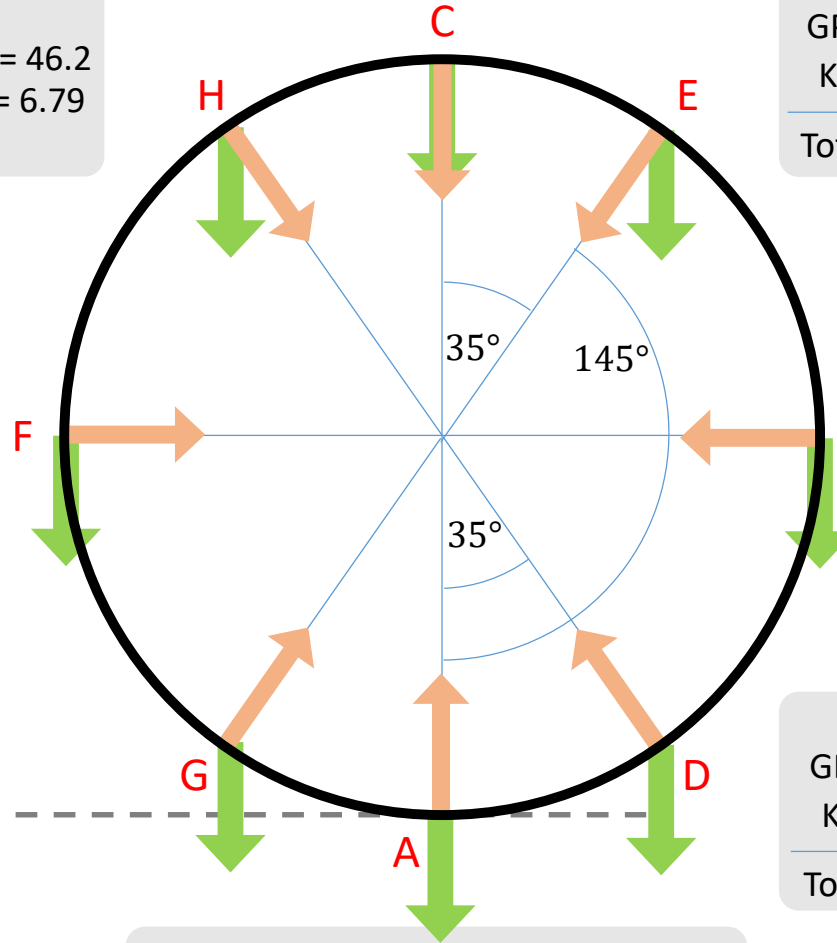
$$h = 0.5 - 0.5\cos 145 = 0.91$$

$$GPE = 0.1 \times 9.8 \times 0.91 = 0.89$$

$$KE = 0.5 \times 0.1 \times v^2 = 2.31 \quad v^2 = 46.2$$

$$v = 6.79$$

$$\text{Total} = 3.2$$



$$GPE = 0.1 \times 9.8 \times 0.5 = 0.49$$

$$KE = 0.5 \times 0.1 \times v^2 = 2.71 \quad v^2 = 54.2$$

$$v = 7.36$$

$$\text{Total} = 3.2$$

$$h = 0.5 - 0.5\cos 35 = 0.09$$

$$GPE = 0.1 \times 9.8 \times 0.09 = 0.89$$

$$KE = 0.5 \times 0.1 \times v^2 = 3.11 \quad v^2 = 62.2$$

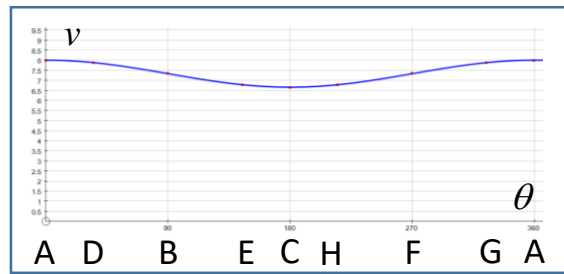
$$v = 7.89$$

$$\text{Total} = 3.2$$

$$GPE = 0.1 \times 9.8 \times 0 = 0$$

$$KE = 0.5 \times 0.1 \times 8^2 = 3.2$$

$$\text{Total} = 3.2$$



Zero line

$$GPE = mgh \quad u = ms^{-1}$$

$$KE = \frac{1}{2}mv^2 \quad m = kg$$

$$r = m$$

$$GPE = m \times g \times 2r =$$

$$KE = 0.5 \times m \times v^2 = TE - GPE \quad v^2 =$$

$$Total = \quad TE \quad v =$$

$$h = r - r\cos\theta$$

$$GPE = m \times g \times (r - r\cos\theta) =$$

$$KE = 0.5 \times m \times v^2 = TE - GPE$$

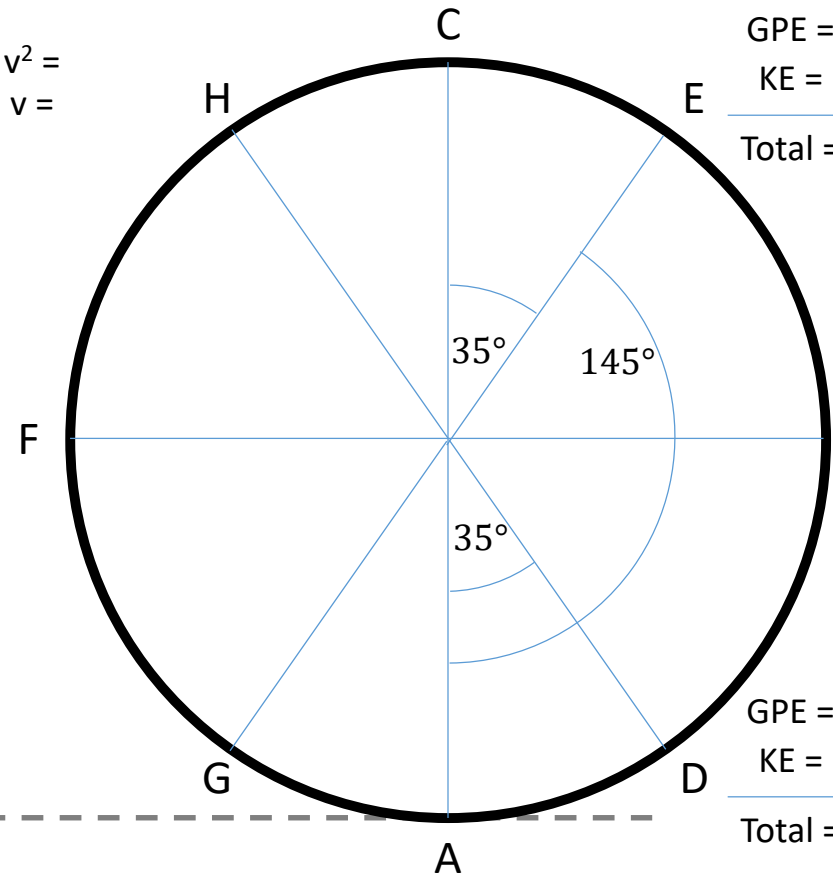
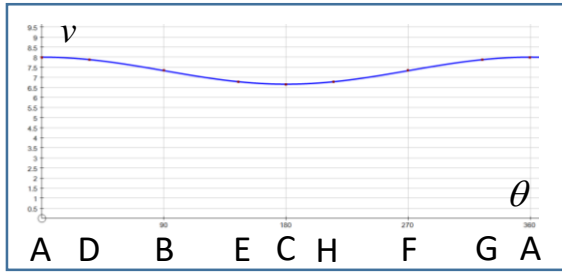
$$Total = \quad TE$$

$$h = r - r\cos\theta$$

$$GPE = m \times g \times (r - r\cos\theta) =$$

$$KE = 0.5 \times m \times v^2 = TE - GPE \quad v^2 =$$

$$Total = \quad TE \quad v =$$



$$GPE = m \times g \times r =$$

$$KE = 0.5 \times m \times v^2 = TE - GPE \quad v^2 =$$

$$Total = \quad TE \quad v =$$

$$h = r - r\cos\theta$$

$$GPE = m \times g \times (r - r\cos\theta) =$$

$$KE = 0.5 \times m \times v^2 = TE - GPE \quad v^2 =$$

$$Total = \quad TE \quad v =$$

$$GPE = \quad 0$$

$$KE = 0.5 \times m \times v^2 = \quad KE$$

$$Total = \quad TE$$

Zero line -----

