For solving this task we will use energy conservation law:

There is a conversion of kinetic energy into potential. At the top point $E_k = 0$ but $E_p = max$, at the bottom point $E_k = \max$ but $E_p = 0$, and E_k at the bottom point is equal the E_p at the top point.

$E_k = E_p$,   *where* $E_k = \dfrac{mv^2}{2} - $ *kinetic energy*, $E_p = mgh - $ *potential energy*

$m = 0.2 kg$

$v = 5\dfrac{m}{s}$

$g = 10\dfrac{m}{s^2}$

$\dfrac{mv^2}{2} = mgh$

$\dfrac{v^2}{2} = gh$

$h = \dfrac{v^2}{2g} = \dfrac{25}{20} = 1.25 metrs$