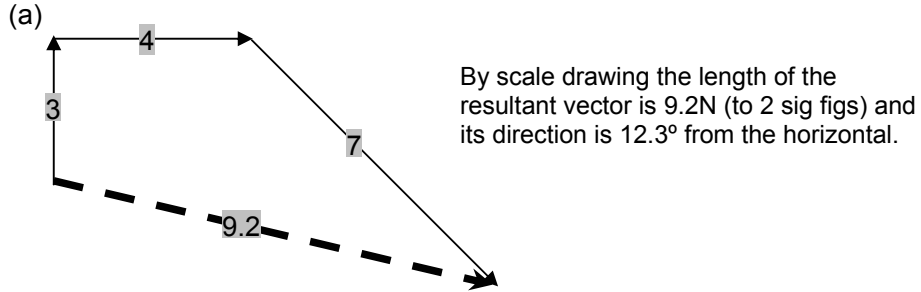
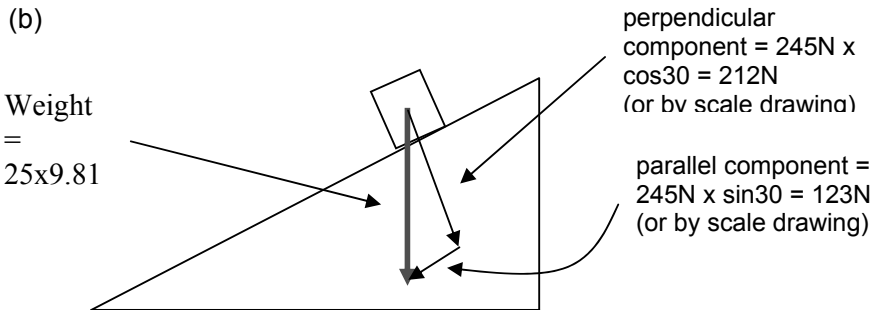


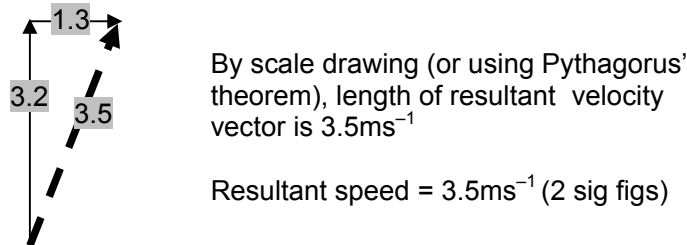
Example T1.4



Note that you are not expected to get the exact answer, but are expected to draw a neat, accurate scale drawing and get an answer close to the correct value.

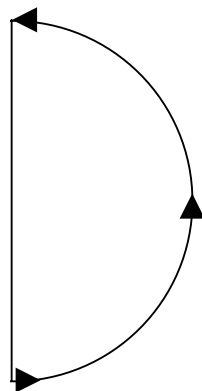


(c) The resultant *speed* is the *length* of vector that is the vector sum of the two component velocities (speeds & directions) given.



Topic 2 – Mechanics

Example T2.1:



$$\text{Av. speed} = \frac{\text{dist. traveled}}{\text{time taken}} = \frac{\frac{1}{2} \times 2\pi r}{3.5} = 10.8 \text{ (ms}^{-1}\text{)}$$

Speed after 1s = 10.8ms^{-1}

$$\text{Av. velocity} = \frac{\text{displ.}}{\text{time}} = \frac{24\text{m}}{3.5\text{s}} = 6.86\text{ms}^{-1}, \text{ due north}$$

Velocity after 1s = 10.8ms^{-1} at a direction given by the tangent to the circle at that point (the direction at which it is traveling)

Note that actual (instantaneous) velocity is equal to the instantaneous speed and instantaneous direction.