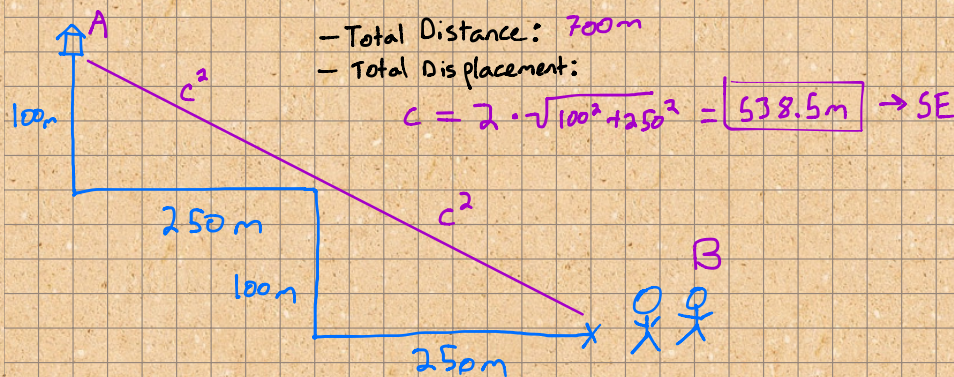


Warm-up: Calculate the distance traveled and displacement:



• Speed: a rate at which distance is covered

↳ Instantaneous speed: rate of speed at any given moment

↳ Average Speed:  $\frac{\text{total distance}}{\text{total time}}$

• Ex: if we travel 240 km in 4.0 hrs, what is

our speed in mph?  $1 \text{ mi} = 1.6 \text{ km}$

$$\frac{240 \text{ km}}{4.0 \text{ hrs}} \cdot \frac{1 \text{ mi}}{1.6 \text{ km}} = 37 \text{ mph}$$

• Velocity: rate at which an object changes position

• Speed = scalar

• Velocity = vector

• Acceleration: rate at which velocity changes

$$A = \frac{\Delta \text{Velocity}}{\Delta \text{time}}$$

★ applies to both increases [positive accel.]  
and decreases [negative accel.]