

Task

Question 1

- 1.1 What is the displacement of the ball?
- 1.2 What distance has the ball moved through?

Question 2

John runs 10 metres forwards and walks 5 metres back, and takes 20 seconds to do this.

- 2.1 What is John's average speed?
- 2.2 What is John's average velocity?

Question 3

A car travels 50 kilometres along a straight road in 30 minutes.

- 3.1 Calculate the speed of the car in kilometres per hour.
- 3.2 Convert this speed to metres per second.

Question 4

If a car travels along a straight road at $120 \text{ km}\cdot\text{h}^{-1}$ for 15 minutes, how far in metres has it travelled?

Question 5

If a car travels in a straight line at $80 \text{ km}\cdot\text{h}^{-1}$ for 15 minutes, and then $100 \text{ km}\cdot\text{h}^{-1}$ for 30 minutes, what is the average speed of the car in kilometres per hour?

Question 6

What is the acceleration of a car traveling west, if it goes from rest to a velocity of $50 \text{ km}\cdot\text{h}^{-1}$ in 6s? Hint: Remember to convert the units to SI units.

Question 7

A driver travels east at $100 \text{ km}\cdot\text{h}^{-1}$ when she sees a speed trap ahead. The speed restriction for the road is set for $80 \text{ km}\cdot\text{h}^{-1}$. It takes her 4s to slow down to the correct speed. What is the car's acceleration?

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