Corbett maths

Examples

Workout

Instantaneous
▶ Click here
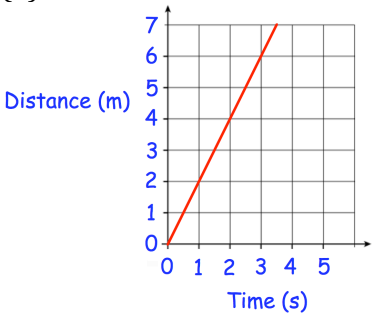
Average
▶ Click here

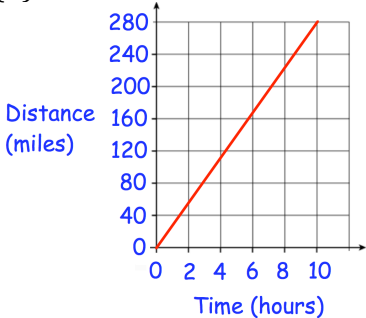Instantaneous
Scan here

Average
Scan here

*There are templates at the end of this exercise.

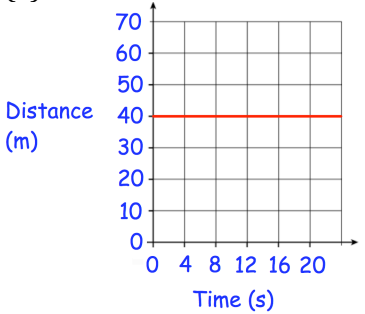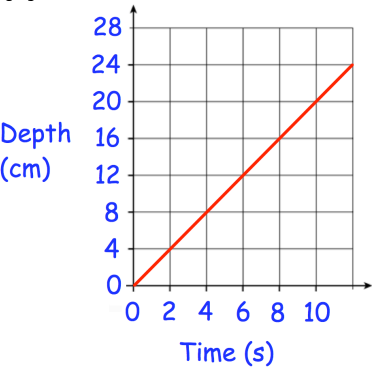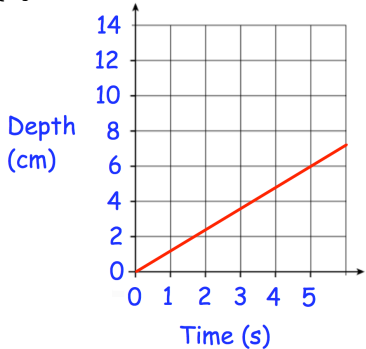**Question 1:** For each graph below, work out the speed.

(a)

(b)

(c)

Question 2: For each graph below, work out the rate of change of depth.
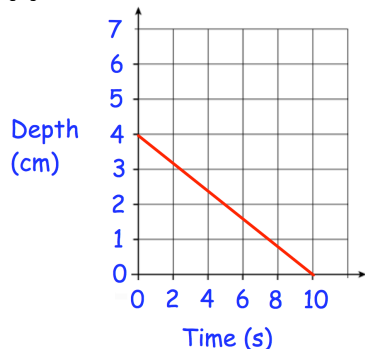Give each answer in cm/s

(a)

(b)

(c)

Question 3: For each graph below, work out the acceleration.
Give each answer in m/s^2

(a)

(b)
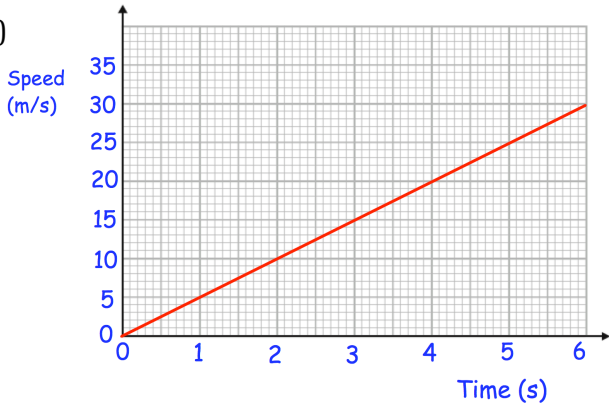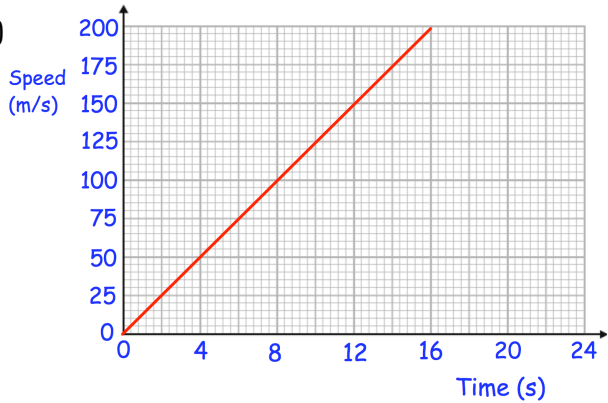
Question 4: Here is part of a quadratic graph

(a) What is the gradient of the graph at the point (0, −4) ?

(b) Calculate an estimate of the gradient of the graph at the point (2, 0)

(c) Calculate an estimate of the gradient of the graph at the point (−1, −3)
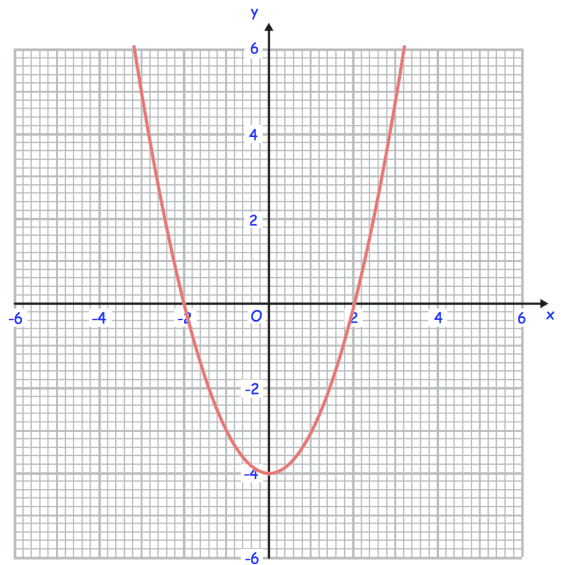
Question 5: The graph shows the height of a ball above the ground.

(a) Use the graph to work out an estimate of the speed of the ball at 1 second.

(b) When was the speed $0 \, m/s$?

(c) Use the graph to work out an estimate of the speed of the ball at 4 seconds.
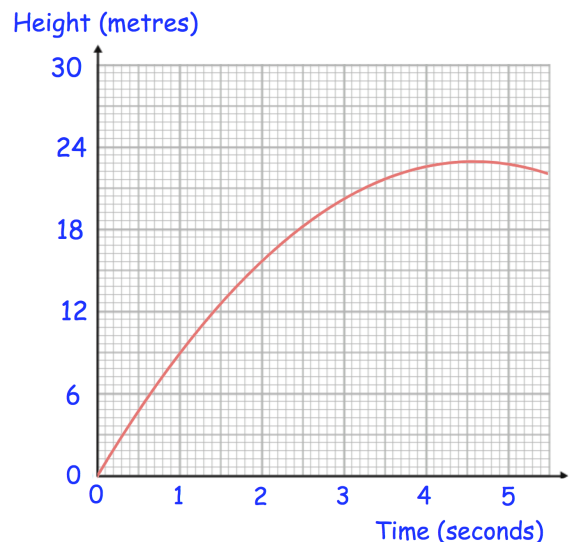
Question 6: The graph shows the velocity of object.

(a) Use the graph to work out an estimate of the acceleration of the object at 2 seconds.

(b) Use the graph to work out an estimate of the acceleration of the object at 8 seconds.

(c) Use the graph to work out an estimate of the deceleration of the object at 16 seconds
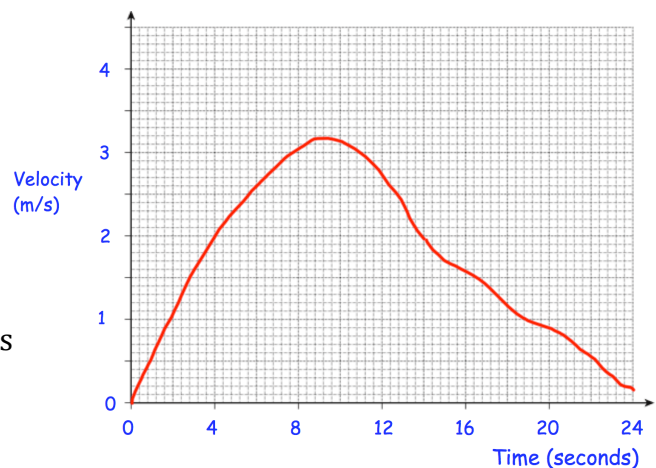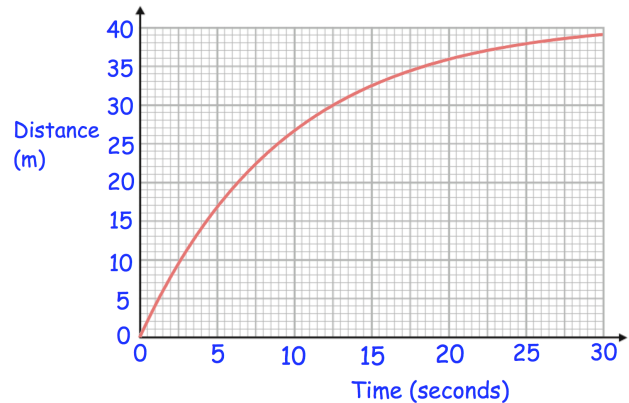
Question 7:   Shown is a distance-time graph of part of a journey.

(a) Work out the average speed
over the first 5 seconds of the journey.

(b) Work out the average speed
between 15 and 30 seconds.

Question 8:   Hugh has a bucket with holes in in.
Hugh fills the bucket with water and records the depth of water
The graph shows the depth of water in the bucket.

(a) Work out the average rate of change of depth
of water between 0 and 2 seconds.

(b) Work out the average rate of change of depth
of water between 2 and 6 seconds.
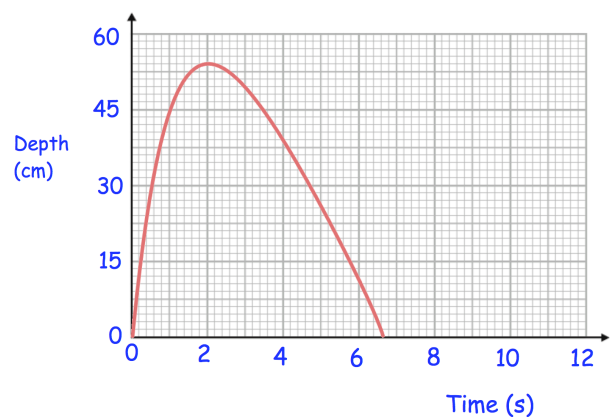
Question 9:   Here is the speed of a toy car during 12 seconds.

(a) Work out the average acceleration of the
toy car between 1 and 5 seconds.

(b) Work out the average acceleration of the
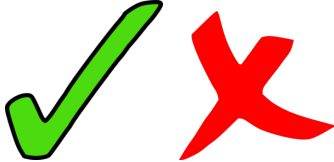toy car between 8 and 12 seconds.
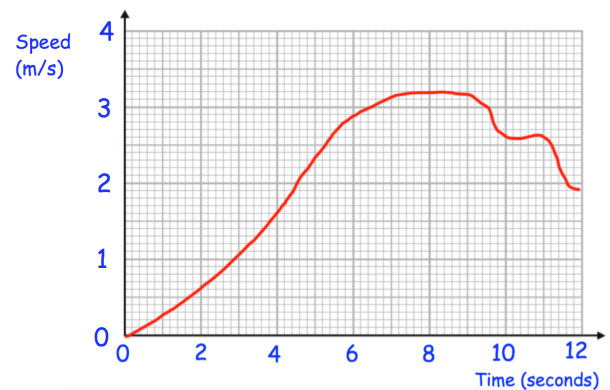
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Apply

Question 1:   Below is the distance-time graph for
the first 40 seconds of a train journey.

(a) Use the graph to calculate an estimate
for the speed of the train at 30 seconds.

(b) Explain why your answer to (a) is only an estimate.

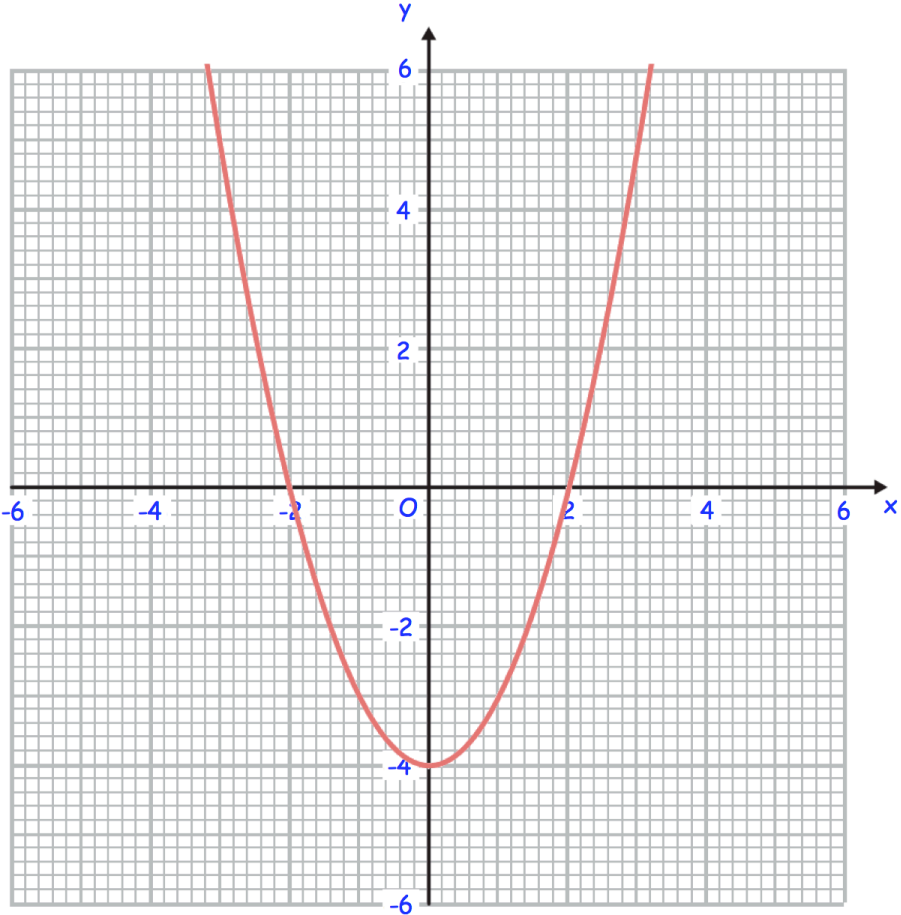(c) Estimate the highest speed reach by the train
on the journey.
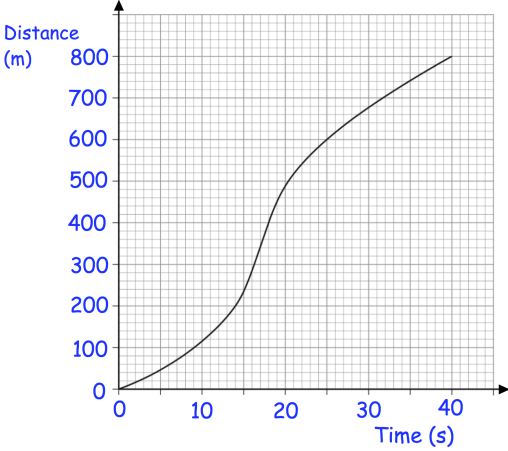
Answers

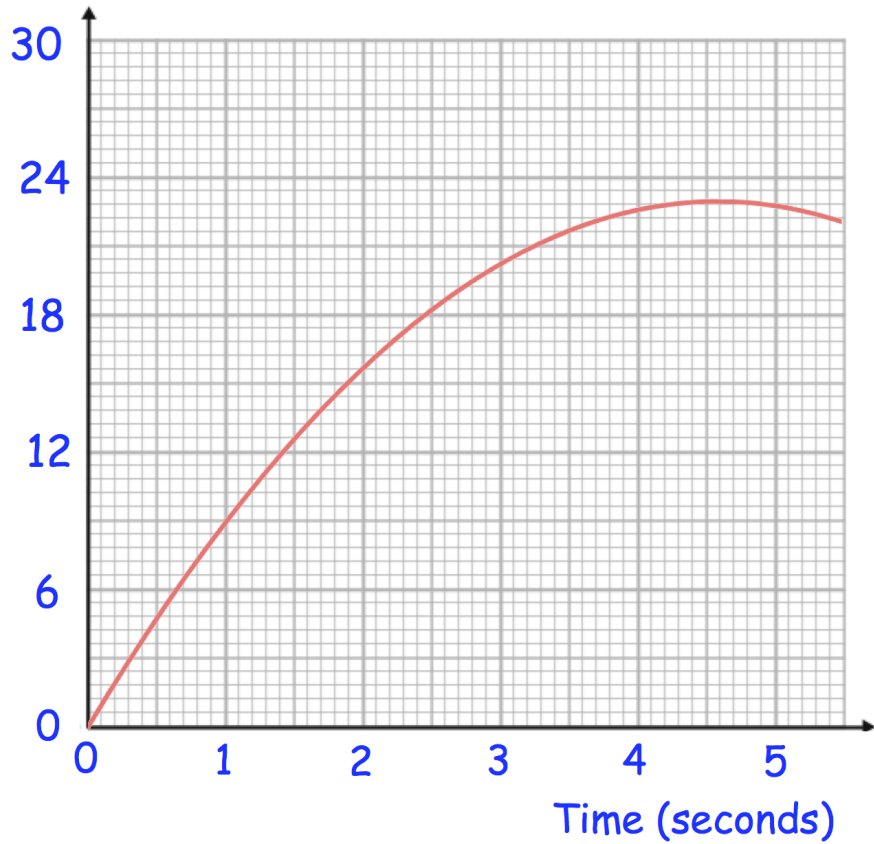✔ ✘

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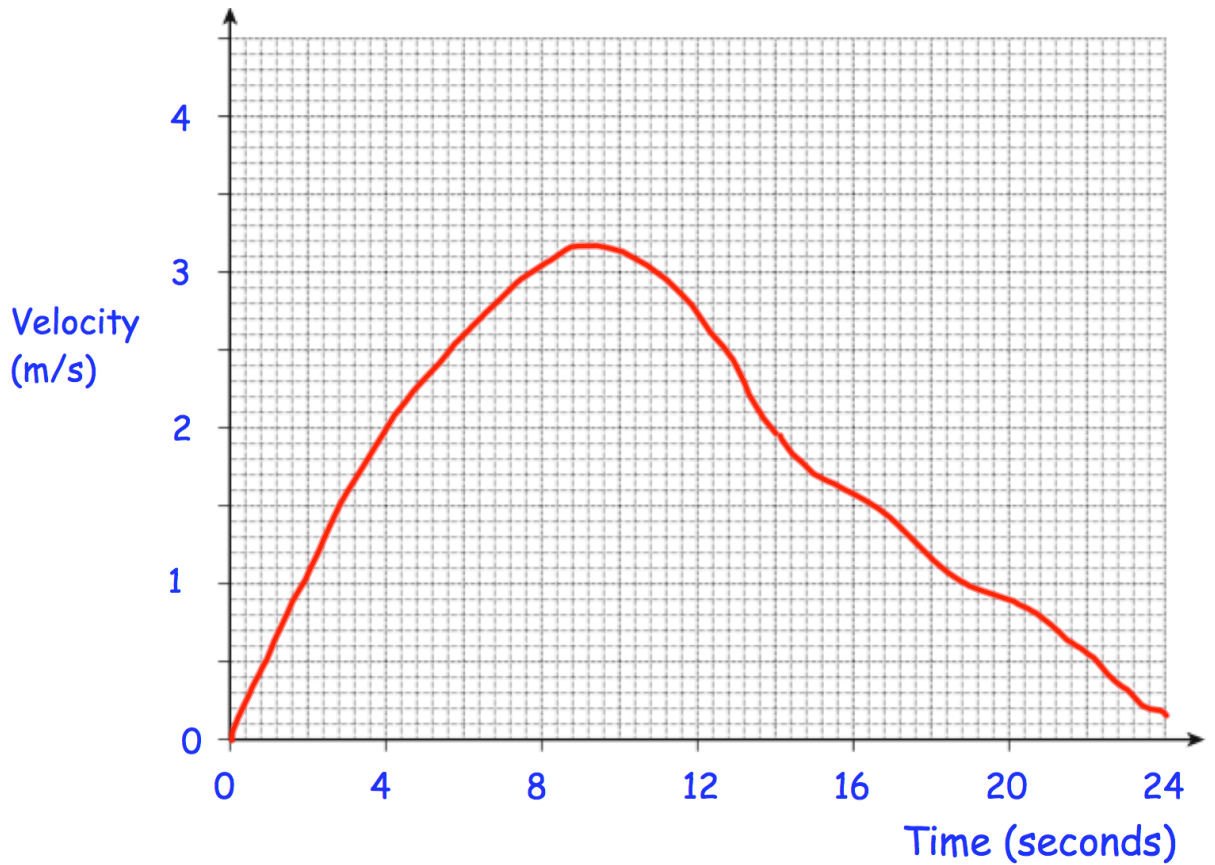
Templates

Question 4:

Question 5:

Question 6:

Question 7:

Question 8:

Question 9:

Apply 1: