

# Velocity-time graphs

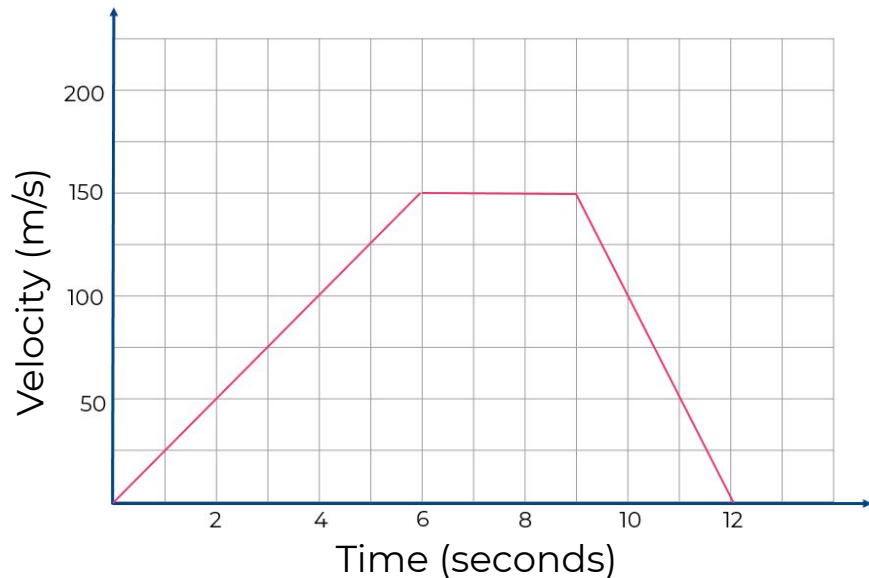
Mathematics

Mr Clasper



# Velocity-time graphs

1. Here is the journey of a sports car.



a) What is the speed of the car after

i) 4 seconds?

ii) 6 seconds?

b) What is the maximum speed the car reaches? At what time does it reach this?

c) How long is the car travelling at constant speed?

d) For how long is the car travelling at or greater than 125 m/s?

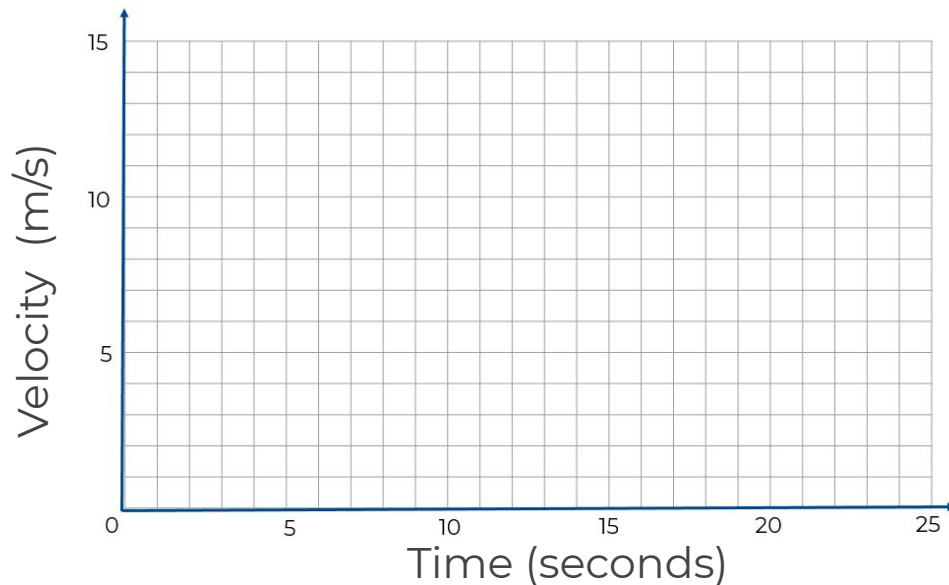


# Velocity-time graphs

2. A sprinter runs a race starting from rest

- After 4 seconds she is travelling at 7 m/s. The acceleration is constant.
- After 12 seconds she is travelling at 11 m/s. The acceleration is constant.
- She runs at 11 m/s for 6 seconds and crosses the finishing line.
- She comes to a stop in 3 seconds. The deceleration is constant.

Draw a velocity-time graph to show this information.

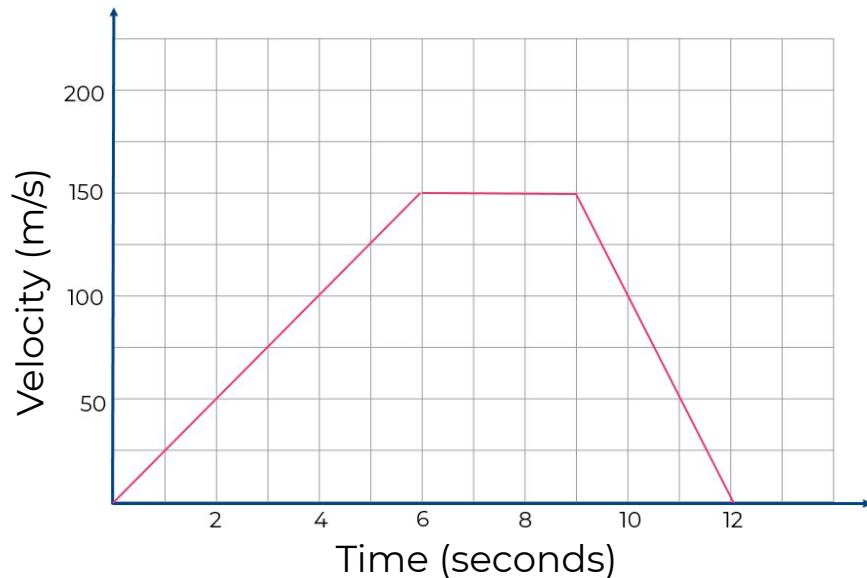


# Answers



# Velocity-time graphs

1. Here is the journey of a sports car.



a) What is the speed of the car after

i) 4 seconds? **100 m/s**

ii) 6 seconds? **150 m/s**

b) What is the maximum speed the car reaches? At what time does it reach this? **150 m/s at 6 seconds**

c) How long is the car travelling at constant speed? **3 seconds**

d) For how long is the car travelling at or greater than 125 m/s?

$$9.5 - 5 = 4.5 \text{ seconds}$$



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