Combined Science Review

Mr Saville
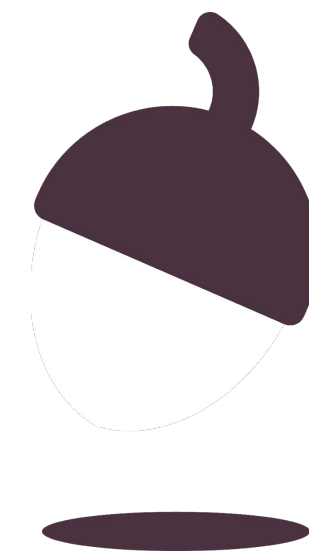
OAK
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Independent Practice

Task 1: Organise the following quantities in two lists of scalars and vectors. Can you label the units?

mass	energy
velocity	time
temperature	speed
distance	acceleration
displacement	force
momentum	

Task 2: Organise the following forces in two lists of contact and non-contact forces.

magnetic force	gravitational force
tension	normal contact force
electrostatic force	friction
lift	air resistance
upthrust	

Independent Practice

1. Calculate the weight of a man that has a mass of 84 kg. (g= 9.8 N/kg)

1. Calculate the weight of a tennis ball that has a mass of 45 g. (g= 9.8 N/kg)

3. The weight of an astronaut on the moon is 131.2 N, they have a mass of 82 kg. What is the gravitational field strength on the moon?

4. The weight of a second astronaut on the moon is 104 N. Calculate their mass.

5. The weight of a buggy is on mars is 7400 N, whilst on earth it is 19600 N. Explain why.

Independent Practice

Calculate the resultant forces, and state the motion (and direction) of the objects.

a) Object stationary

5 N ←————●————→ 15 N

b) Object moving to right

5 N ←——●——→ 5 N

c) Object moving to right

14 N ←————●————→ 7 N

d) Object stationary

45N ←————————●——→ 15 N

e) Object stationary

5 N ←——●——→ 5 N

f) Object moving to left

14 N ←————●————→ 28 N

Independent Practice
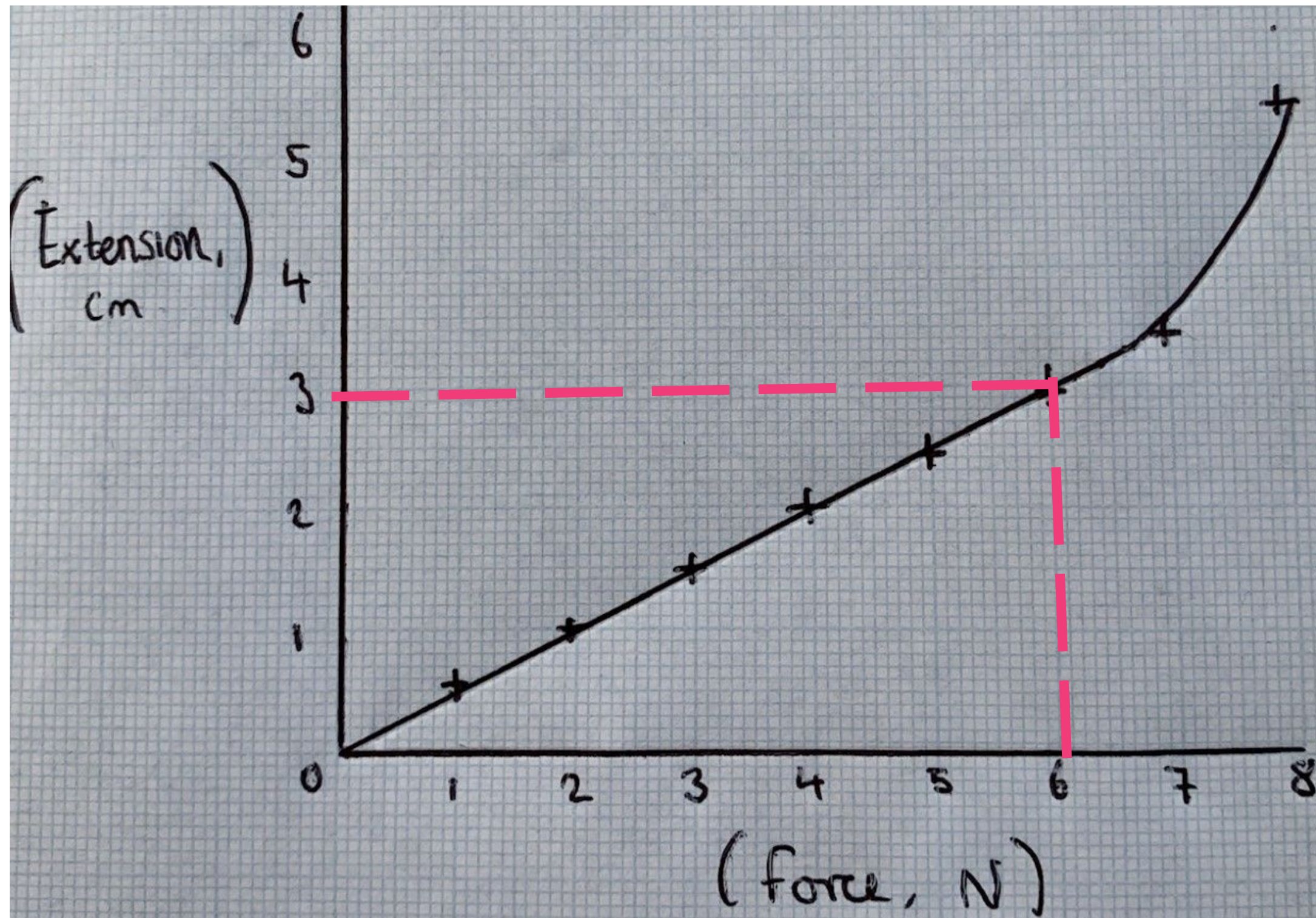

1) What is an elastic object?

1) What relationship do the results show?

1) What is the elastic limit?

1) When is the elastic limit reached in the results?

1) What is the spring constant of this spring?

Independent Practice

1. Identify what is happening at each point on the graphs.
2. Calculate the speed at A on the distance-time graph, and the acceleration on the velocity-time graph.
3. Calculate the speed at E on the distance-time graph, and the deceleration on the velocity-time graph.
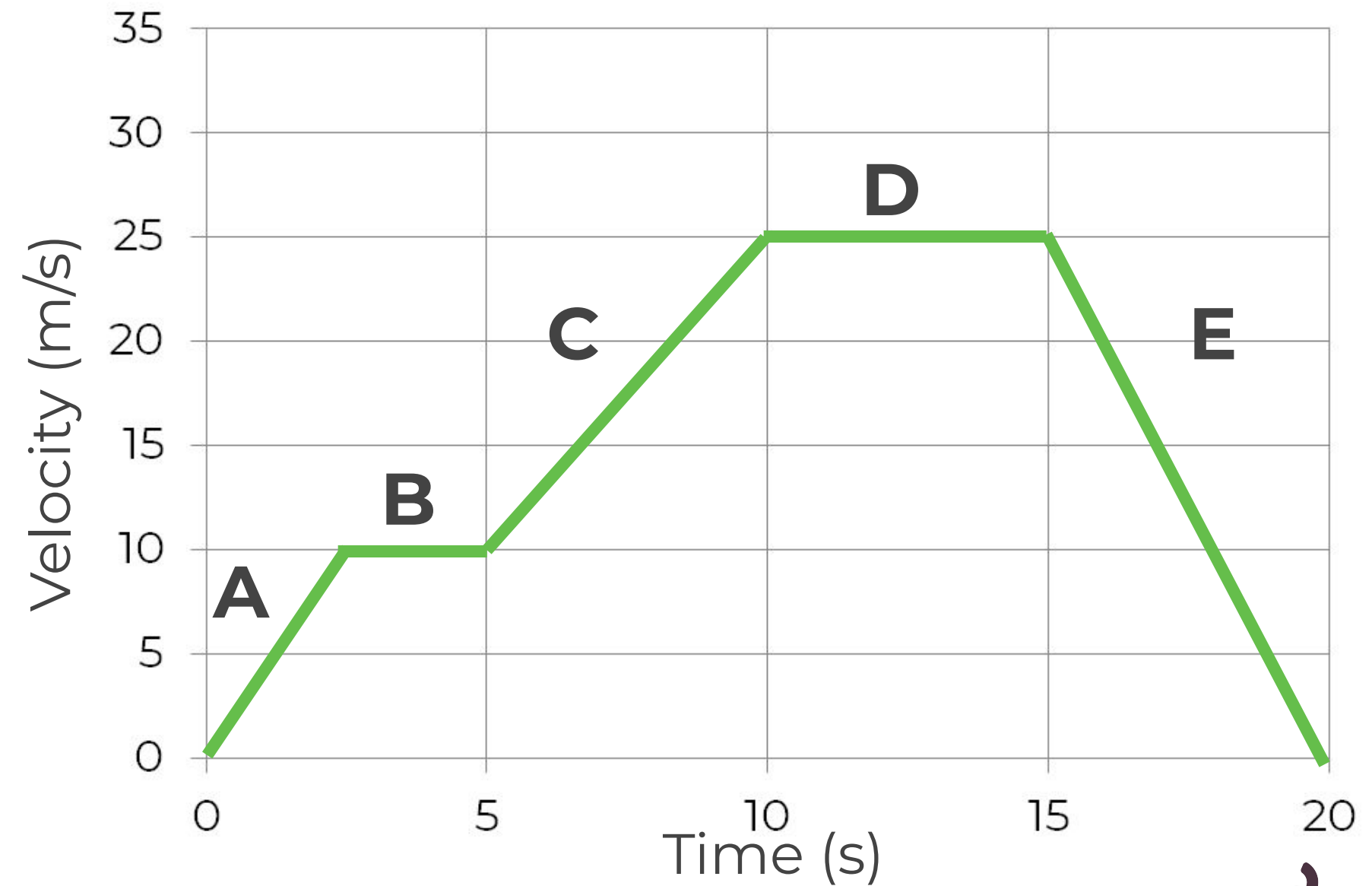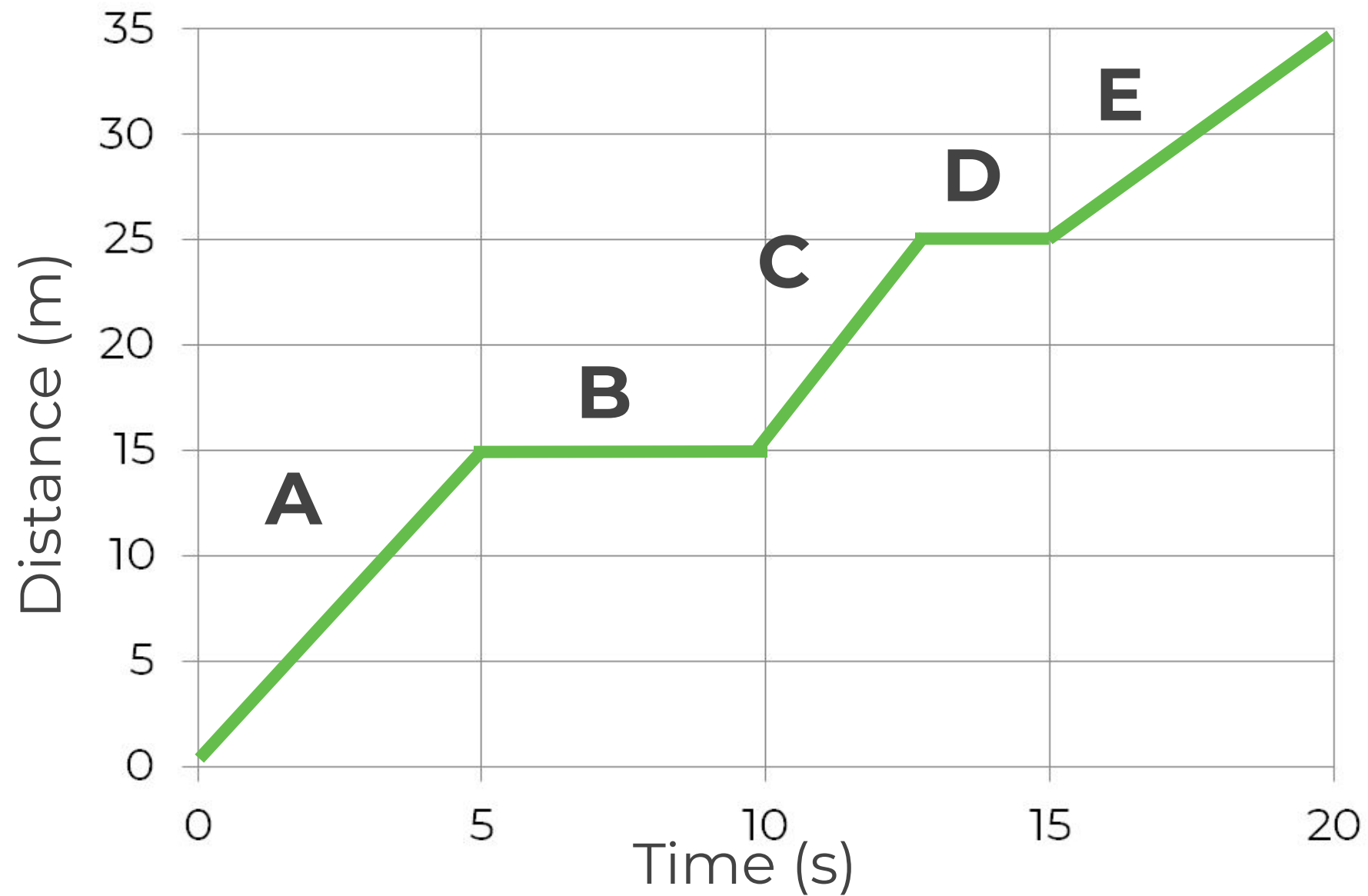
Independent Practice

Describe the factors that affect the stopping distance of a vehicle. In your answer explain the difference between thinking distance, braking distance and stopping distance, how they are related and factors which affect their lengths. (6)