

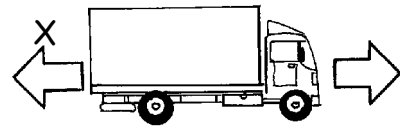
Name _____ Class _____

- 1 Complete the sentences using words from the box. You do not need to use all the words.

a

balanced	unbalanced	friction	energy
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The backwards force, X, on the lorry is caused by air resistance and _____.



The forces on the lorry are the same size.

The speed of the lorry will stay the same because the forces are _____.

[2 marks]

- b Use some of these words to answer part b.

air resistance	balanced	bigger	smaller	water
	resistance	unbalanced		

The backwards force, Y, on the boat is caused by _____.



The speed of the boat will increase

when the size of the forward force is _____ than the backwards force.

When the boat is getting faster the forward and backwards forces are _____.

[3 marks]

2 Ben runs 15 km in 3 hours.

What units would you use for his speed? Tick **one** box.

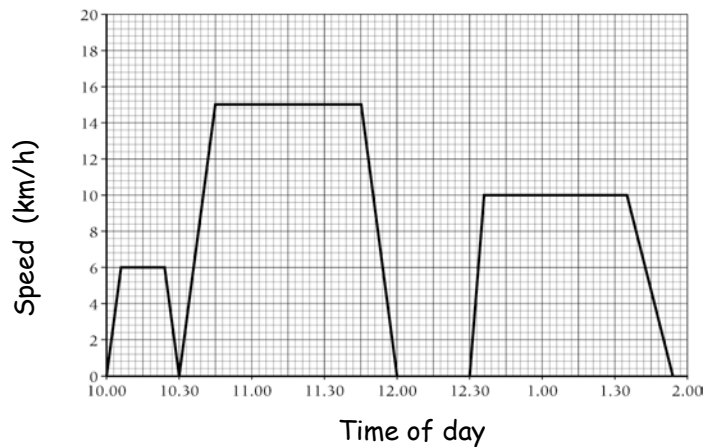
m/s

mph

km/h

[1 mark]

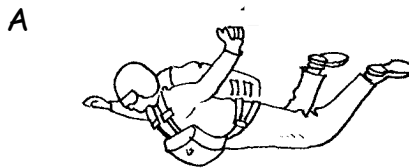
3 Janet went for a bicycle ride. This speed-time graph shows how fast she went at different times during the journey.



a What was her fastest speed during the trip? _____ [1 mark]

b How fast was she going at 1 o'clock? _____ [1 mark]

4 Sam is skydiving.



a What is the name of the downwards force on him? _____

[1 mark]

b Draw an arrow to show the direction of the air resistance on Sam.

[1 mark]

Sam has just opened his parachute. He is falling slightly slower than he was in picture A

- c Why is the upwards force on him bigger than in picture A?

[1 mark]

Sam's parachute has slowed him down.

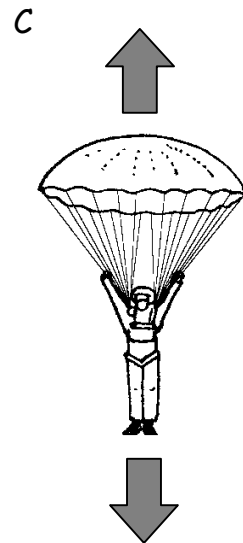
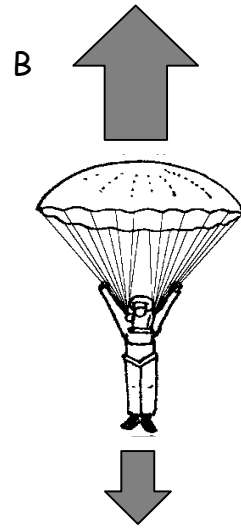
- d Complete the sentences.

In picture C, the air resistance on Sam's parachute is _____ than it is in picture B, because now Sam is falling more _____.

[2 marks]

- c What would happen to Sam's speed if his parachute harness broke and he lost his parachute?

[1 mark]



- 5 Look at the pictures of the lorries. Both lorries have the same size engines and have the same mass.



Explain why Daisy's lorry can go a bit faster than Fred's lorry.

[1 mark]