3.4 Forces: 10-minute Pack

AQA 8461 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 State what is meant by the term "force".

(Total for Question 1 is 1 mark)

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2 Give the term used for the point beyond which a spring will not return to its original length.

(Total for Question 2 is 1 mark)

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3 Calculate the weight of the book and state the magnitude of the support force from the table. Show your working.

(Total for Question 3 is 3 marks)

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4 Calculate the weight of the child. Show the equation and working.

(Total for Question 4 is 2 marks)

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5 A car drives along a straight horizontal road at constant speed. The driving force from the engine is balanced by friction and air resistance.

(a) State what is meant by an object moving at constant speed. **(1)**

(b) Explain why the driving force must equal the total resistive forces for the car to maintain constant speed. **(1)**

(Total for Question 5 is 2 marks)

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Mark scheme · 3.4 Forces: 10-minute Pack

Question 1

a push or a pull on an object, or something that changes the motion of an object, oe **B1**

Answer: A push or a pull on an object (something that changes an object's motion).

Question 2

elastic limit cao **B1**

Answer: Elastic limit.

Question 3

substitutes into W = m x g: W = 1.2 x 10 **M1**

12 N cao **A1**

states support force is 12 N upward cao **A1**

Answer: Weight = 12 N; support force = 12 N upward

Question 4

substitutes into W = m x g (W = 6.0 x 10) **M1**

60 N cao **A1**

Answer: 60 N

Question 5

(a) speed stays the same (no change in magnitude of velocity) cao **B1**

(a) Answer: The speed stays the same; there is no change in the magnitude of velocity.

(b) resultant force is zero when forces are balanced, so there is no acceleration, oe **B1**

(b) Answer: Because when driving force equals resistive forces the resultant force is zero, so the car does not accelerate.

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