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EDEXCEL GCSE PHYSICS: QUESTIONS BY TOPIC

Key Concepts of Physics (1)

GCSE Physics (Foundation) Topic 1

2 questions · 16 marks · Mark schemes included

Pearson Edexcel GCSE (9-1) Physics 1PH0, Foundation Tier, June 2018 - June 2025

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HOW TO USE THIS BOOKLET

Questions run from the lowest mark tariff to the highest, so similar questions sit together.

Click any row below to jump straight to that question.

On every question page, click ANSWER in the top-right corner to jump to its mark scheme.

Diagrams, graphs, tables and data are printed exactly as they appeared in the original papers.

QUESTION	SOURCE	MARKS	PAGE
1. Q1 <i>also Topic 2</i>	Paper 1 June 2018	7	4
2. Q6 <i>also Topic 2</i>	Paper 1 November 2021	9	7



QUESTIONS

2 questions · 16 marks · lowest tariff first



7-MARK QUESTIONS

1 question in this booklet



1 (a) Which of these speeds would be normal for a person walking?

(1)

- ☐ A 0.1 m/s
- ☐ B 1.0 m/s
- ☐ C 10 m/s
- ☐ D 100 m/s

(b) Figure 1 shows a block hanging from a spring balance.

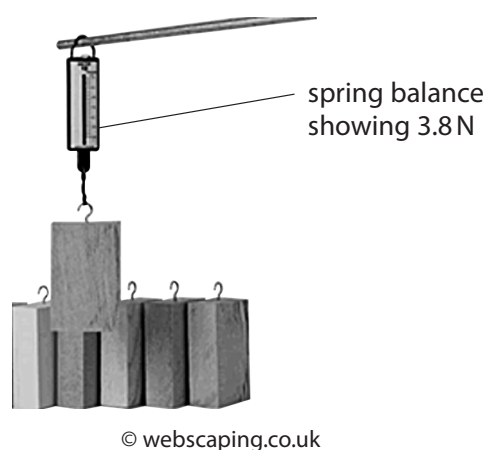


Figure 1

Use a word from the box to complete the sentence below.

density	mass	volume	weight
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The quantity measured by the spring balance in Figure 1 is

(1)

.....

- (c) A toy car has a mass of 0.10 kg.
The toy car accelerates at 2.0 m/s^2 .

Calculate the force producing this acceleration.
State the unit.

Use the equation

$$F = m \times a$$

(3)

force = ... unit = ...

- (d) Use words from the box to complete the sentences below.

direction	energy	mass	size
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(2)

Vectors have size and

Scalars have only

(Total for Question 1 = 7 marks)



9-MARK QUESTIONS

1 question in this booklet



6 Quantities can be either scalar or vector.

(a) Which of these is a vector quantity?

(1)

- ☒ A mass
- ☒ B force
- ☒ C energy
- ☒ D distance

(b) Figure 7 shows a ball bearing as it falls slowly through a clear, dense liquid.

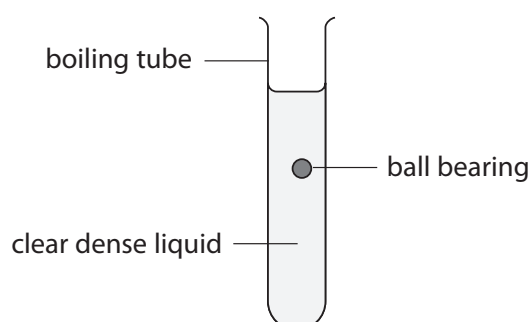


Figure 7

The apparatus in Figure 7 is used to find the average speed of the ball bearing as it falls.

(i) Devise an experiment to determine the average speed of the ball bearing as it falls through the liquid.

(4)

You should include:

- any extra apparatus you would use to take measurements
- the measurements you would take
- how you would calculate the speed.

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(ii) A student thinks that the ball bearing falls through the liquid at a constant speed.

Explain how you could develop this experiment to determine if the ball bearing falls through the liquid at constant speed.

You may draw a diagram to help your answer.

(2)

(c) The ball bearing is now dropped through air.

The initial velocity of the ball bearing is zero.

The acceleration of the ball bearing is 10 m/s^2 .

The ball bearing falls 1.5 m.

Calculate the velocity of the ball bearing when it has fallen 1.5 m.

Use the equation

$$v^2 - u^2 = 2 \times a \times x$$

(2)

velocity of ball bearing = ... m/s

(Total for Question 6 = 9 marks)



MARK SCHEMES

official Pearson Edexcel mark schemes



Question Number	Answer	Mark
1(a)	B 1.0 m/s The only correct answer is B <i>A 0.1 m/s is incorrect, being 1 metre every 10s, insect crawling pace</i> <i>C 10 m/s is incorrect, being an Olympic sprinter's pace, much too fast for 'walking'</i> <i>D 100 m/s is incorrect, being a very fast sport's car's pace</i>	(1) AO 1 1

Question Number	Answer	Mark
1(b)	weight / force (accept circle around weight if not contradicted on answer line)	(1) AO 1 2



Question Number	Answer	Additional guidance	Mark
1(c)	substitution (1) $(F =) 0.10 \times 2.0$ evaluation (1) $0.2(0)$ unit (1) N	100×2 (using $0.10\text{kg} = 100\text{g}$) reject 0.10×2.0^2 and the follow up evaluation (equation given should be used) correct answer without working gets 2 marks allow 1 mark total for 2 with any other power of ten, so that includes 200 for example separate unit mark newtons / Newtons accept lowercase 'n' for the abbreviated unit accept kg ms^{-2} accept 200 g ms^{-2} for 3 marks	(3) AO 2 1

Question Number	Answer	Additional guidance	Mark
1(d)	• direction (1) • size (1)	answers only acceptable in given order or magnitude	(2) AO 2 1

(Total for Question 1 = 7 marks)



Question number	Answer	Additional guidance	Mark
6 (a)	B force A is incorrect, mass is a scalar quantity C is incorrect, energy is a scalar quantity D is incorrect, distance is a scalar quantity		(1) AO1

Question number	Answer	Additional guidance	Mark
6 (b)(i)	A plan including four of the following measurement of appropriate distance (1) measurement of appropriate time (1) use of speed = $\frac{\text{distance}}{\text{Time}}$ (1) detail (1) e.g. repeat and average, use ruler/stop clock, mark a line near the top and bottom of liquid		(4) AO3

Question number	Answer	Additional guidance	Mark
6(b)(ii)	An explanation linking two from: add more lines (at equal distances)(1) measure the time of fall for each distance (1) compare the times (1)	use longer test tube / use different heights of liquid / use different sections of the liquid e.g. {equal times = constant speed} / {shorter time = acceleration}	(2) AO3

Question number	Answer	Additional guidance	Mark
6 (c)	substitution (1) $(v^2 - 0 =) 2 \times 10 \times 1.5$ evaluation (1) 5.5(m/s)	accept numbers that round to 5.5 e.g. 5.477 30(m/s) gains 1 mark for correct substitution but no square root taken award full marks for correct answer without working.	(2) AO2

Total marks for question 6 = 9

