AQA GCSE PHYSICS (HIGHER) · 8463

PHYSICS



MARK SCHEME

4.5.4 MOMENTS, LEVERS AND GEARS (PACK 2)

SCORE	PERCENTAGE
/28	%

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answer

0.3

Nm

*do **not** accept joules*

1

(ii) 1.5 (N)

*allow **1** mark for correct transformation*

*allow **2** marks ecf their part (b)(i)/20 (ecf only if correct physics)*

2

(c) 5 (cm)

*allow **1** mark for 6.0 (cm)*

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*allow **1** mark for a subtraction of 1 from a value clearly obtained from the graph*

*allow **2** marks for correct ecf using an incorrect value for (b)(i) ± 0.2cm*

*allow **1** mark for clearly showing correct use of graph using an incorrect value for (b)(ii)*

2

[10]

Q3.

(a) moment/torque increases as moves away

gains 2 marks

leverage/force increases as moves away

gains 1 mark

2

(b) (i) 20

gains 2 marks

else working

gains 1 mark

2

(ii) 100 000 ecf

gains 2 marks

else working

gains 1 mark

2

[6]

Q4.

lever

turning effect

pivot

for 1 mark each

[3]

Q5.

(a) *evidence of* moment = force × distance
or 200 × 1.5

gains 1 mark

but 300

gains 2 marks

2

(b) *ideas that* smaller than load

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gains 1 mark

but 100 N **or** half the load

gains 2 marks

because applied further from pivot

gains 1 mark

but applied 2 × distance from pivot **or** evidence of balancing moments

gains 2 marks

(working for (b) shown in (a) gains credit – transfer mark)

4

[6]

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