

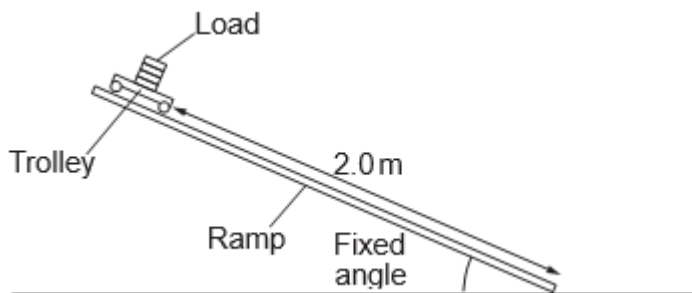
GCSE Physics A (Gateway)

J249/01 Physics A P1-P4 and P9 (Foundation Tier)

Question Set 14

- 1 A student investigates the average speed at which a trolley with different loads travels down a ramp.

Look at the diagram of her experiment.



She releases the trolley from a distance of 2.0 m from the bottom of the ramp.

The student uses a stop-clock to measure the time it takes to reach the bottom of the ramp.

She calculates the average speed. Look at her results.

Load (N)	Time taken (s)	Average speed (m/s)
20	2.3	0.87
40	2.4	0.83
60	2.3	0.87
80	2.4	0.83

- (a)* Describe the trend shown by the results, identify problems with the experiment and describe any improvements that you would make to the experiment.

[6]

- (b) For one experiment the trolley starts from rest and reaches a final speed of 2 m/s.

The ramp length is 2.0 m.

Calculate the acceleration of the trolley.

Acceleration = m/s²

[4]

Total Marks for Question Set 14: 10

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