

# Scalar and Vector Quantities

## Mark Scheme

<b>Level</b>	GCSE (9-1)
<b>Subject</b>	Combined Science: Trilogy - Physics
<b>Exam Board</b>	AQA
<b>Topic</b>	6.5 Forces
<b>Sub-Topic</b>	Scalar and Vector Quantities
<b>Difficulty Level</b>	Bronze Level
<b>Booklet</b>	Mark Scheme

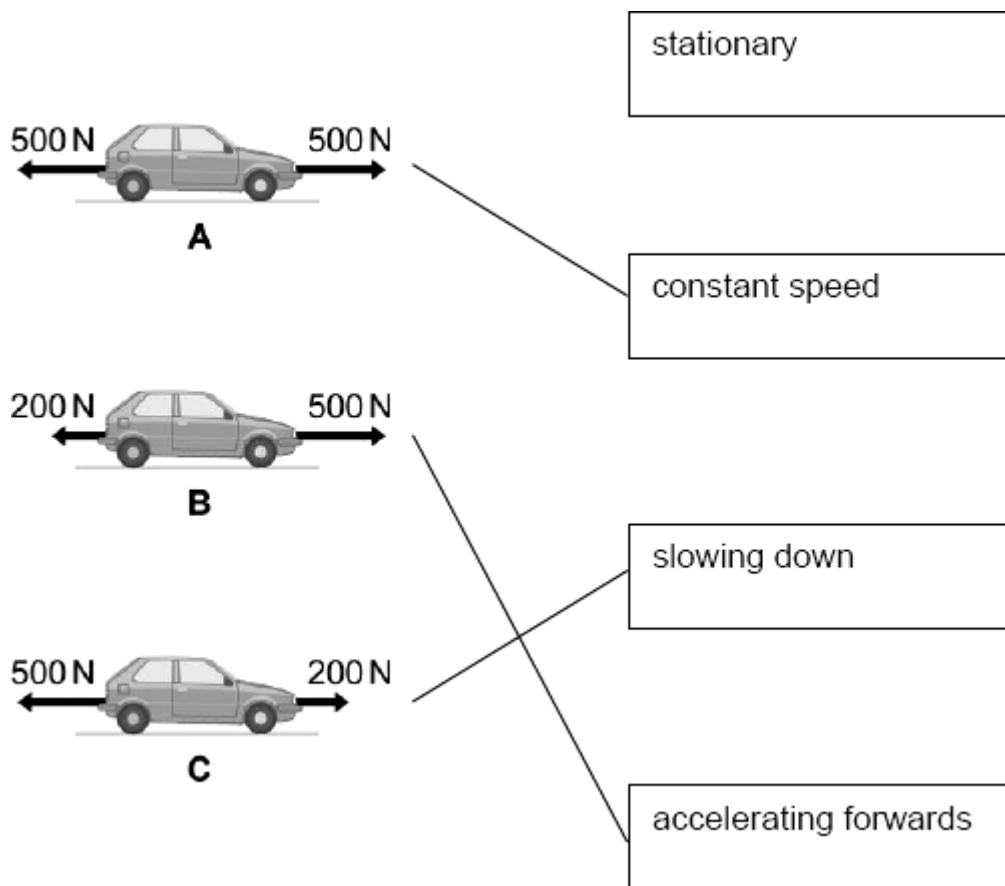
**Time Allowed:** 13 minutes

**Score:** /13

**Percentage:** /100

**Grade Boundaries:**

- M1.(a)** 3 lines drawn  
all correct  
allow 1 mark for each correct line  
if two or more lines are drawn from any diagram then all these lines are incorrect



3

- (b) (i) horizontal arrow to the right  
judge by eye  
accept an arrow drawn outside the box if it is labelled correctly

1

- (ii) horizontal arrow to the left  
judge by eye  
accept an arrow drawn outside the box if it is labelled correctly

1

(iii) equal to

1

(iv) to measure the forces exerted on the dummy during the impact

1

[7]

**M2.** (a) (i) horizontal arrow pointing to the left  
*judge by eye*  
*drawn anywhere on the diagram*

1

(ii) 60 (N)

1

(at steady speed) resultant force must be zero  
*accept forces must balance/are equal*  
*accept no acceleration*  
*do **not** accept constant speed*

1

(b) 1680

*allow 1 mark for correct substitution, ie  $60 \times 28$  provided no subsequent step shown*

2

joule

*accept J*  
*do not accept j*

1

[6]

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