SMART EXAM RESOURCES
9702 PHYSICS TOPIC QUESTIONS
TOPIC: PHYSICAL QUANTITIES AND UNITS
SUB-TOPIC: SCALARS AND VECTORS
SUB-SUB-TOPIC: EXAMPLES OF SCALARS AND VECTORS
SET-1-QP-MS

1 Explain the differences between the quantities *distance* and *displacement.*

.....

.....

.....[2]

MARKING SCHEME:

displacement is a vector, distance is a scalar	B1	
displacement is straight line between two points / distance is sum of lengths moved / example showing difference (either one of the definitions for the second mark)	B1	[2]

2 Underline all the vector quantities in the list below.

distance energy momentum weight work [1]

MARKING SCHEME:

momentum and weight B1 [1]

3 **(a)** Distinguish between *mass and weight*.

mass: .....

.....

weight: .....

.....

[2]

MARKING SCHEME:

mass is the property of a body resisting changes in motion / quantity of matter in a body / measure of inertia to changes in motion	B1	
weight is the force due to the gravitational field/force due to gravity or gravitational force	B1	[2]

Allow 1/2 for *'mass is scalar weight is vector'*

4 **(a)** Force is a vector quantity. State three other vector quantities.

1. .....

2. .....

3. .....

[2]

MARKING SCHEME:

displacement / velocity / acceleration / momentum / etc. three correct (none wrong) 2, two correct (none or one wrong) 1	A2	[2]

5 The following list contains scalar and vector quantities.

Underline **all** the scalar quantities.

acceleration force mass power temperature weight [1]

MARKING SCHEME:

$t = (8.5 \times 10^{16})/(3.0 \times 10^{8})$	C1	
$(= 2.83 \times 10^{8} =) 0.28(3)$ Gs	A1	[2]
mass, power and temperature all underlined and no others	B1	[1]