



EXAM PAPERS PRACTICE

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1.3 Vectors & Scalars

Easy



PHYSICS

IB HL

1.3 Vectors & Scalars

Question Paper

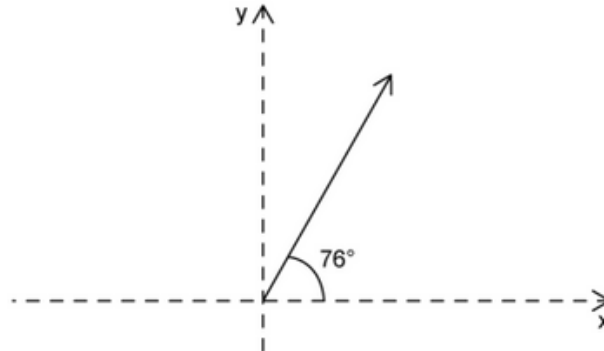
Course	DP IB Physics
Section	1. Measurement & Uncertainties
Topic	1.3 Vectors & Scalars
Difficulty	Easy

Time allowed: 20
Score: /10
Percentage: /100



Question 1

A vector of magnitude 10 units is shown with respect to a set x and y axes.



What is the correct expression for the components of the vector along the x and y axis?

	Component along the x axis	Component along the y axis
A.	$10 \cos 76$	$10 \sin 76$
B.	$10 \cos 76$	$10 \sin 14$
C.	$10 \sin 76$	$10 \cos 76$
D.	$10 \sin 76$	$10 \cos 14$

[1 mark]

Question 2

A vector P has components $P_x = 3.0$ cm and $P_y = 4.0$ cm.

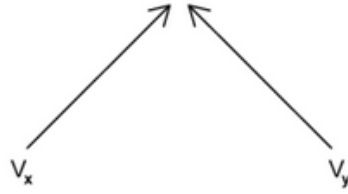
What is the length of the vector P?

- A. 1.0 cm
- B. 5.0 cm
- C. 7.0 cm
- D. 25.0 cm

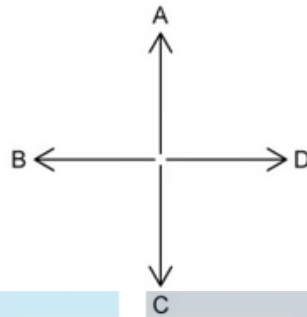
[1 mark]

Question 3

The velocity vectors \mathbf{v}_X and \mathbf{v}_Y of two cars, X and Y, are shown.



Which arrow represents the direction of the vector $\mathbf{v}_X - \mathbf{v}_Y$?



[1 mark]

Question 4

Which of the following statements about scalar quantities is incorrect?

- A. Scalar quantities contain a magnitude only
- B. Mass is a scalar quantity
- C. Scalar quantities contain both magnitude and direction
- D. Speed is a scalar quantity

[1 mark]

Question 5

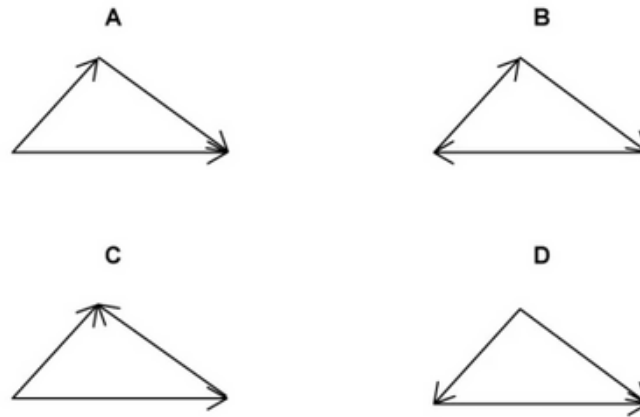
Which of the following quantities is not a vector?

- A. Acceleration
- B. Weight
- C. Mass
- D. Drag



Question 6

Three forces act on a body in equilibrium. Which diagram is a possible vector diagram for this situation?



[1 mark]

Question 7

Three forces act on a body as shown:



Which of the following statements is correct?

- A. The body is in equilibrium
- B. The force required to bring the body into equilibrium is directed in a north west direction
- C. The force required to bring the body into equilibrium is directed in a south east direction
- D. There is no resultant force on the body

[1 mark]

Question 8

Which of the following units is used to measure vectors only?

- A. m
- B. m s^{-1}
- C. s
- D. N

[1 mark]

Question 9

Which of the following units is used to measure scalar quantities only?

- A. s
- B. m
- C. m s^{-1}
- D. m s^{-2}

[1 mark]

Question 10

Which of the following statements about vector quantities is incorrect?

- A. Vectors quantities include a magnitude
- B. Vector quantities contain a direction
- C. Vector quantities are only positive
- D. Vector quantities are positive or negative

[1 mark]