PRINCE EDWARD ISLAND PHYSICS 12 · UNIT A · 25 QUESTIONS

Application of Vectors — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A displacement of 3 metres east and 4 metres north has magnitude in metres equal to**



ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A displacement of 6 metres east and 8 metres north has magnitude in metres equal to**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A displacement of 5 metres east and 12 metres north has magnitude in metres equal to**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A vector of magnitude 10 at 30 degrees to the horizontal has horizontal component as a decimal, rounded to four decimal places, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A vector of magnitude 20 at 60 degrees to the horizontal has vertical component as a decimal, rounded to four decimal places, is**



ANSWER

Understand It with Pulse | Flag a mistake

6 **Two forces of 6 newtons east and 8 newtons north act on an object. The resultant force in newtons is**

ANSWER

Understand It with Pulse | Flag a mistake

7 **A vector quantity has both**

A magnitude and direction

B magnitude only, with no direction at all, like a distance or a speed

C direction only

D units only

Understand It with Pulse | Flag a mistake

8 **A scalar quantity has**

A magnitude and direction

B direction only

C no units

D magnitude only

Understand It with Pulse | Flag a mistake

9 **Displacement differs from distance because displacement includes**

A speed

B mass

C direction

D time

Understand It with Pulse | Flag a mistake

10 **Two vectors are equal when they have the same**

A starting point only

B magnitude and direction

C magnitude only

D direction only

Understand It with Pulse | Flag a mistake

11 **Vector addition by components uses the**

A horizontal and vertical parts separately

B magnitudes only, with the direction of each vector ignored entirely

C angles only

D sum of directions

Understand It with Pulse | Flag a mistake

12 **A negative vector has the same magnitude but**

A half the magnitude

B double the magnitude

C no direction

D opposite direction

Understand It with Pulse | Flag a mistake

13 **The resultant of two perpendicular vectors is found using**

A simple subtraction

B multiplication only

C the Pythagorean theorem

D simple addition

Understand It with Pulse | Flag a mistake

14 **Velocity is a vector because it includes**

A time only

B speed and direction

C speed only

D distance only

Understand It with Pulse | Flag a mistake

15 **A boat travels 12 metres east then 5 metres north. Its displacement magnitude in metres is**



ANSWER _____

Understand It with Pulse | Flag a mistake

16 **A vector of magnitude 50 at 0 degrees has horizontal component**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **A vector of magnitude 50 at 90 degrees has vertical component**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **East 30 metres and west 10 metres combine to a net east displacement in metres of**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **North 40 metres and south 15 metres combine to a net north displacement in metres of**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **A displacement of 20 metres east and 21 metres north has magnitude in metres equal to**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **A vector of magnitude 30 at 90 degrees has vertical component**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A displacement of 30 metres east and 40 metres north has magnitude in metres equal to**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **Two forces of 9 newtons east and 12 newtons north act on an object. The resultant force in newtons is**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **East 100 metres and west 30 metres combine to a net east displacement in metres of**

ANSWER _____

Understand It with Pulse | Flag a mistake

25

A vector of magnitude 20 at 0 degrees has vertical component

ANSWER

Understand It with Pulse

Flag a mistake

ANSWER KEY

1.	5	**10.**	B	**19.**	25
2.	10	**11.**	A	**20.**	29
3.	13	**12.**	D	**21.**	30
4.	8.6603	**13.**	C	**22.**	50
5.	17.3205	**14.**	B	**23.**	15
6.	10	**15.**	13	**24.**	70
7.	A	**16.**	50	**25.**	0
8.	D	**17.**	50		
9.	C	**18.**	20		

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