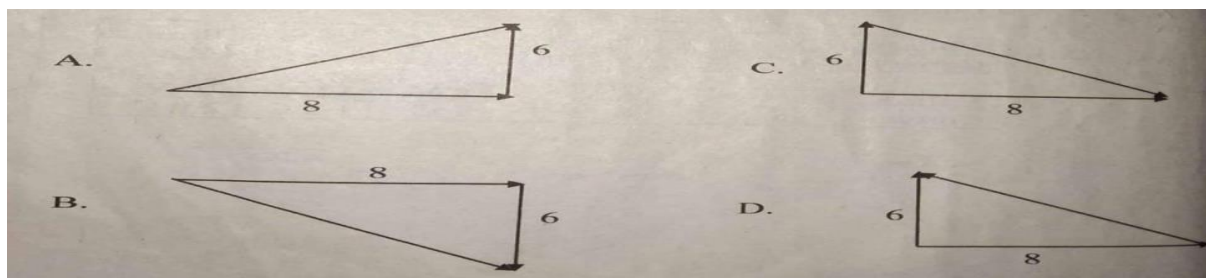


2016/2023

CHERCHER SECONDARY SCHOOL**Grade 11Th Physics Work Sheet From Unit Two****Part I. From The Given Alternative Choose The Best Answers**

1. If a particle is moving at a velocity $\mathbf{u} = 4\text{m/s}$ in the positive x – direction and $\mathbf{v} = 10\text{m/s}$ at 60° above $\mathbf{u}$. What is the magnitude of the velocity of the particle?
A. 17 m/s. B. 12 m/s. C. 9 m/s. D. 8 m/s.
2. The angle between the two vectors $\mathbf{A} = 3\mathbf{i} + 4\mathbf{j} + 5\mathbf{k}$ and $\mathbf{B} = 3\mathbf{i} + 4\mathbf{j} - 5\mathbf{k}$ will be
A. Zero B. 45° C. 90° D. 180°
3. Which of the following pair of vectors are collinear ? A, $[-4, 2]$, $[4, -2]$ B. $[4, 2]$, $[-4, 2]$
C. $[4, 2]$, $[4, -2]$ D. $[4, 2]$, $[-4, -2]$,
4. Two non-zero vectors $\mathbf{D}$ and $\mathbf{E}$ have precisely equal magnitude for the magnitude of $\mathbf{D} + \mathbf{E}$ to be 3 times larger than magnitude of $\mathbf{D} - \mathbf{E}$, what must be the angle between $\mathbf{D}$ and $\mathbf{E}$?
A. 30° B. 37° C. 53° D. 60°
5. Which of the following is **NOT** a vector quantity?
A. Displacement B. Electric field C. Work D. Acceleration
6. A boy in a journey covers his routes by traveling his 6m due north and 8m west. What is the magnitude of his resultant displacement ? A. 2m B. 14m C. 10m D. 7m
7. If the magnitude of sum of two vectors is equal to the magnitude of difference of the two vectors, the angle between these vectors is: A. 0° B. 90° C. 45° D. 180°
8. Two vectors of magnitude 8 units in the direction of East and the second vector of magnitude 6 units in the direction of North are given. If you add the two vectors using graphical method, which graph represents the resultant of the two vectors?

**Part II. Work out****CONTACT ME ON:-** Telegram:- Team Physics Study

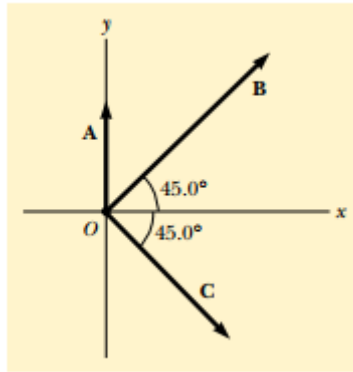
Facebook :- Team Physics Study

Email:- sufiyanhusen307@gmail.com

Phone Number:- 0921491508

2016/2023

9. The magnitudes of two vectors **A** and **B** are $A = 12$ units and $B = 8$ units respectively. What are the largest and smallest possible values for the magnitude of the resultant vectors? $\mathbf{R} = \vec{A} + \vec{B}$?
10. Consider the two vectors $\mathbf{A} = 3\mathbf{i} - 2\mathbf{j}$ and $\mathbf{B} = -\mathbf{i} - 4\mathbf{j}$. Calculate (a). $\mathbf{A} + \mathbf{B}$ (b). $\mathbf{A} - \mathbf{B}$
11. Given the displacement vectors $\mathbf{A} = (3\mathbf{i} - 4\mathbf{j} + 4\mathbf{k})$ m and $\mathbf{B} = (2\mathbf{i} + 3\mathbf{j} - 7\mathbf{k})$ m, find the magnitudes of the vectors (a). $\mathbf{C} = \mathbf{A} + \mathbf{B}$ and (b). $\mathbf{D} = 2\mathbf{A} - \mathbf{B}$,
12. Three displacement vectors of ball as shown in Figure below where $|\mathbf{A}| = 20$ units, $|\mathbf{B}| = 40$ units, and $|\mathbf{C}| = 30$ units. Find (a) the resultant in unit-vector notation and (b) the magnitude and direction of the resultant displacement



13. If $\mathbf{A} = (6\mathbf{i} - 8\mathbf{j})$ units, $\mathbf{B} = (-8.00\mathbf{i} + 3.00\mathbf{j})$ units, and $\mathbf{C} = (26.0\mathbf{i} + 19.0\mathbf{j})$ units, determine a and b such that $a\mathbf{A} + b\mathbf{B} + \mathbf{C} = 0$.
14. Suppose $\mathbf{A} = 3\mathbf{i} - 2\mathbf{j}$ and $\mathbf{B} = -\mathbf{i} - a\mathbf{j}$ are two vectors in xy - plane. What is the value of a , such that $\vec{A} + \vec{B} = 2\mathbf{i}$?
15. For what value of a are the vectors $\mathbf{A} = 2\mathbf{i} + 4\mathbf{j} + 6\mathbf{k}$ and $\mathbf{B} = 3\mathbf{i} + a\mathbf{j} - 3\mathbf{k}$ perpendicular to each other?

CONTACT ME ON:- Telegram:- Team Physics Study

Facebook :- Team Physics Study

Email:- sufiyanhusen307@gmail.com

Phone Number:- 0921491508