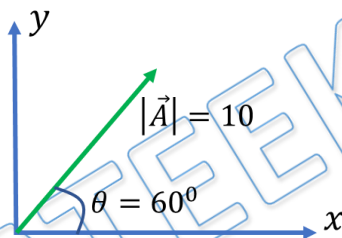




DPP - 2

- Q 1. Direction of unit vector of vector \vec{A} is:
(a) Always in the direction of \vec{A}
(b) Always opposite to the direction of \vec{A}
(c) Always perpendicular to the direction of \vec{A}
(d) In any random direction.
- Q 2. Which of the following is negative vector of $\vec{A} = 2\hat{i} - 3\hat{j} + 4\hat{k}$:
(a) $\vec{B} = 2\hat{i} - 3\hat{j} + 4\hat{k}$ (b) $\vec{B} = 2\hat{i} + 3\hat{j} + 4\hat{k}$
(c) $\vec{B} = -2\hat{i} - 3\hat{j} - 4\hat{k}$ (d) $\vec{B} = -2\hat{i} + 3\hat{j} - 4\hat{k}$
- Q 3. Find the magnitude of vector $\vec{P} = 10\hat{i} + 30\hat{j}$:
(a) $10\sqrt{10}$ (b) $10\sqrt{20}$
(c) $20\sqrt{10}$ (d) 45

- Q 4. Represent the given vector in \hat{i} & \hat{j} notation:



- (a) $\vec{A} = 5\hat{i} + 5\hat{j}$ (b) $\vec{A} = 5\hat{i} - 5\hat{j}$
(c) $\vec{A} = 5\hat{i} + 5\sqrt{3}\hat{j}$ (d) $\vec{A} = 5\sqrt{3}\hat{i} + 5\hat{j}$
- Q 5. Find a unit vector in the direction of $\vec{P} = \hat{i} + \hat{j}$:
(a) $\hat{P} = \hat{i} + \hat{j}$ (b) $\hat{P} = \frac{\hat{i}}{\sqrt{2}} + \frac{\hat{j}}{\sqrt{2}}$
(c) $\hat{P} = \hat{i} - \hat{j}$ (d) $\hat{P} = \frac{\hat{i}}{\sqrt{2}} - \frac{\hat{j}}{\sqrt{2}}$
- Q 6. Find a vector \vec{Q} of magnitude 5 unit in the the direction of $\vec{P} = 6\hat{i} + 8\hat{j}$:
(a) $\vec{Q} = 6\hat{i} + 8\hat{j}$ (b) $\vec{Q} = 3\hat{i} + 4\hat{j}$
(c) $\vec{Q} = \frac{6}{\sqrt{2}}\hat{i} + \frac{8}{\sqrt{2}}\hat{j}$ (d) $\vec{Q} = \frac{3}{\sqrt{2}}\hat{i} + \frac{4}{\sqrt{2}}\hat{j}$
- Q 7. Find a vector of magnitude 3 in the direction opposite to the direction of $\vec{c} = \frac{1}{2}\hat{i} + \frac{1}{2}\hat{j}$:
(a) $\vec{P} = -\frac{1}{2}\hat{i} - \frac{1}{2}\hat{j}$ (b) $\vec{P} = -\frac{3}{2}\hat{i} - \frac{3}{2}\hat{j}$
(c) $\vec{P} = -\frac{\sqrt{3}}{2}\hat{i} - \frac{\sqrt{3}}{2}\hat{j}$ (d) $\vec{P} = -\frac{3}{\sqrt{2}}\hat{i} - \frac{3}{\sqrt{2}}\hat{j}$
- Q 8. Find the resultant vector \vec{R} , where $\vec{R} = \vec{A} + \vec{B}$, if $\vec{A} = 2\hat{i} + 3\hat{j}$ and $\vec{B} = 4\hat{i} - 4\hat{j}$:
(a) $\vec{R} = 6\hat{i} + 7\hat{j}$ (b) $\vec{R} = 6\hat{i} - \hat{j}$
(c) $\vec{R} = 6\hat{i} - 7\hat{j}$ (d) $\vec{P} = \hat{i} - \hat{j}$



- Q 9. Find the resultant vector $\vec{R} = \vec{A} - \vec{B}$, if $\vec{A} = 5\hat{i} - 3\hat{j}$ and $\vec{B} = 3\hat{i} + 7\hat{j}$:
- (a) $\vec{R} = 2\hat{i} - 10\hat{j}$ (b) $\vec{R} = 2\hat{i} - 4\hat{j}$
(c) $\vec{R} = 8\hat{i} - 7\hat{j}$ (d) $\vec{R} = 2\hat{i} + 4\hat{j}$

- Q 10. If $\vec{A} = 4\hat{i} - 3\hat{j}$ and $\vec{B} = 6\hat{i} + 8\hat{j}$, then magnitude and direction of $\vec{A} + \vec{B}$:
- (a) $5, \tan^{-1}\left(\frac{3}{4}\right)$ from x - axis
(b) $5\sqrt{5}, \tan^{-1}\left(\frac{1}{2}\right)$ from x - axis
(c) $10, \tan^{-1}(5)$ from x - axis
(d) $25, \tan^{-1}\left(\frac{3}{4}\right)$ from x - axis

Answer Key

Q.1 a	Q.2 d	Q.3 a	Q.4 c	Q.5 b
Q.6 b	Q.7 d	Q.8 b	Q.9 a	Q.10 b