# Physicsaholics

**DPP – 1 (Vectors)**

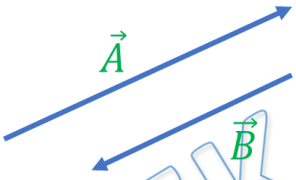
Video Solution on Website:- https://physicsaholics.com/home/courseDetails/43

Video Solution on YouTube:- https://youtu.be/odnOvjKGVqQ

Written Solution on Website:- https://physicsaholics.com/note/notesDetalis/84

Q 1. Two vectors are said to be equal only if they have:
(a) Same magnitude and same direction (b) Same magnitude and opposite direction
(c) Same magnitude only (d) Same direction only

Q 2. Vectors shown in figure are:

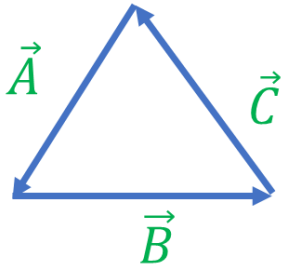



(a) Parallel vector (b) Antiparallel vector
(c) Equal vector (d) None of these

Q 3. Find angle between vectors $\vec{A}$ & $\vec{B}$ :


(a) $150^0$ (b) $120^0$ (c) $60^0$ (d) $30^0$

Q 4. Vectors $\vec{A}$, $\vec{B}$ & $\vec{C}$ forms an equilateral triangle. Then angles between them are:




(a) $60^0, 60^0, 60^0$ (b) $60^0, 120^0, 60^0$
(c) $120^0, 120^0, 120^0$ (d) None of these

Q 5. Two vectors have magnitudes 6 and 8 units respectively. Find the magnitude of the resultant vector if the angle between vectors is $60^0$:
(a) 10 unit (b) $2\sqrt{13}$ unit

(c) $2\sqrt{37}$ unit (d) $2\sqrt{2}$ unit

Q 6. Given that $\vec{A} + \vec{B} + \vec{C} = 0$. Out of three vectors, two are equal in magnitude and the magnitude of third vector is $\sqrt{2}$ times that of either of the two having equal magnitude. Then, the angles between the vectors are given by.
(a) $30^0$, $60^0$, $90^0$ (b) $45^0$, $45^0$, $90^0$
(c) $45^0$, $60^0$, $90^0$ (d) $90^0$, $135^0$, $135^0$

Q 7. Two non-zero vectors $\vec{A}$ and $\vec{B}$ are drawn from a common point and $\vec{C} = \vec{A} + \vec{B}$, then which of the option incorrect regarding the angle between $\vec{A}$ and $\vec{B}$
(a) $90^0$ if $C^2 = A^2 + B^2$ (b) Greater than $90^0$ if $C^2 < A^2 + B^2$
(c) Greater than $90^0$ if $C^2 > A^2 + B^2$ (d) Less than $90^0$ if $C^2 > A^2 + B^2$

Q 8. A vector **a** makes $30^0$, and vector **b** makes $120^0$ angle with the x-axis. The magnitude of these vectors are 3 unit and 4 unit, respectively. The magnitude of resultant vector is:
(a) 5 unit (b) 4 unit
(c) 3 unit (d) 7 unit

Q 9. Two Vectors having equal magnitude of 5 units, have an angle of $60^0$ between them. Find the magnitude of their resultant vector and its angle $\alpha$ from one of the vectors:
(a) 8.66 unit, $90^0$ (b) 8.66 unit, $30^0$
(c) 16.8 unit, $30^0$ (d) 8.66 unit, $45^0$

Q 10. A force of 6 N and another of 8 N can be applied together to produce the effect of a single force of:
(a) 1 N (b) 11 N (c) 15 N (d) 20 N



# Answer Key

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|---|---|---|---|---|
| **Q.1 a** | **Q.2 b** | **Q.3 d** | **Q.4 c** | **Q.5 c** |

| Q.6 d | Q.7 c | Q.8 a | Q.9 b | Q.10 b |
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