

1. Rectangular coordinate system is also called
- A. polar coordinate system                      B. Cartesian coordinate system
- C. cylindrical coordinate system              D. spherical coordinate system

**Answer:** Option B

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2. The direction of a vector in space is specified by
- A. one angle    B. two angle
- C. three angle    D. no angle

**Answer:** Option C

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3. Addition of vector obeys
- A. commutative law                                  B. distributive law
- C. associative law                                   D. all given laws in a, b and c

**Answer:** Option D

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4. A vector can be multiplied by a number. The number may be
- A. dimensionless                                   B. dimensional scalar
- C. negative    D. all a, b and c are correct

**Answer:** Option D

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5. Unit vector  $\hat{n}$  is along
- A. x-axis    B. normal on a surface
- C. y-axis    D. z-axis

**Answer:** Option B

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6.  $\cos\theta\hat{i} + \sin\theta\hat{j}$  is a
- A. vector    B. position vector
- C. vector in the direction at angle  $\theta$         D. unit vector in the direction at angle  $\theta$

with x-axis

with x-axis

**Answer:** Option D

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7. Maximum number of rectangular components are

A. one

B. two

C. three

D. infinite

**Answer:** Option C

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8. Maximum number of components of a vector may be

A. one

B. two

C. three

D. infinite

**Answer:** Option D

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9. Which one is not correct for a vector  $A = 2\hat{i} + 2\hat{j}$ ?

A. has direction  $\theta = 45^\circ$  with x-axis

B. has magnitude 2

C. has magnitude 2 and direction  $\theta = 45^\circ$  with y-axis

D. has magnitude -2

**Answer:** Option D

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10. The resultant of two forces of equal magnitudes is also equal to the magnitude of the forces. The angle between the two forces is

A.  $30^\circ$

B.  $60^\circ$

C.  $90^\circ$

D.  $120^\circ$

**Answer:** Option D