ARJUNA (NEET)

Trigonometry

1. Convert following in degrees :

(i) $\dfrac{5\pi}{4}$ (ii) $\dfrac{4\pi}{3}$

(iii) $\dfrac{\pi}{6}$ (iv) $\dfrac{3\pi}{2}$

(v) $\dfrac{5\pi}{3}$ (vi) $\dfrac{\pi}{3}$

2. Convert following in radian :

(i) 45° (ii) 60°

(iii) 240° (iv) 135°

(v) 120° (vi) 90°

3. If $\tan\theta = \dfrac{5}{12}$; then what is the value of 3 $\sin\theta + 2\cos\theta$.

(A) 3 (B) 4

(C) –3 (D) 12

4. If $y = \sin 2\theta$ then find 'θ' where y will be maximum :

(A) 90° (B) 60°

(C) 45° (D) 30°

5. If position of object $x = 3\sin\theta - \sqrt{7}\cos\theta$ then motion of object is bounded between position.

6. Find value of tan (3°)

(A) 3° (B) sin (3°)

(C) $\dfrac{\pi}{60}$ rad (D) both (B) and (C)

7. If $\dfrac{a_1^2 + a_2^2}{a_1^2 - a_2^2} = \dfrac{5}{3}$ then find $\dfrac{a_1}{a_2} =$

(A) 0 (B) 1

(C) 2 (D) 4

8. If $\dfrac{\sin\theta + \cos\theta}{\sin\theta - \cos\theta} = \dfrac{7}{3}$ then find $\tan\theta$?

(A) $\dfrac{3}{5}$ (B) $\dfrac{5}{2}$

(C) $\dfrac{5}{3}$ (D) $\dfrac{2}{5}$

9. Find sum of $1 + \dfrac{1}{3} + \dfrac{1}{9} + \dfrac{1}{27} + ... + 4p$ to ∞

(A) $\dfrac{3}{2}$ (B) $\dfrac{2}{3}$

(C) $\dfrac{4}{3}$ (D) $\dfrac{3}{4}$

10. If acceleration due to gravity g at height h $<< R$; where R is radius of earth $g = g_0\left(1 + \dfrac{h}{R}\right)^{-2}$ then which is correct
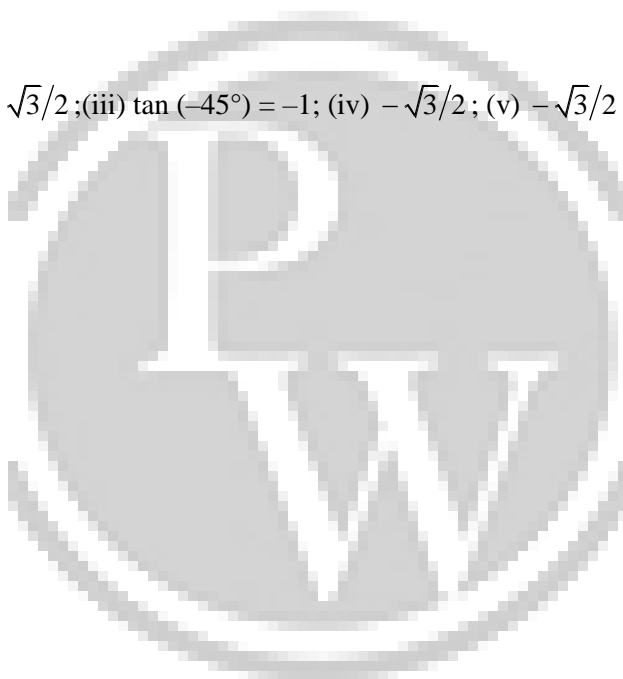
(A) $g = g_0$

(B) $g = g_0\left(1 - \dfrac{2h}{R}\right)$

(C) $g = g_0\left(1 + \dfrac{2h}{R}\right)$

(D) $g = g_0\left(1 - \dfrac{h}{2R}\right)$

11. Find value of different trigonometric function :

(i) sin (135°) (ii) tan (–45°)

(iii) sin (–60°) (iv) cos (–30°)

(v) cos (150°) (vi) tan 135°

ANSWERS

1. (i) $\dfrac{5\pi}{4}$; (ii) $\dfrac{3\pi}{2}$; (iii) $\dfrac{4\pi}{3}$; (iv) $\dfrac{5\pi}{3}$; (v) $\dfrac{\pi}{6}$; (vi) $\dfrac{\pi}{3}$

2. (i) 45°; (ii) 135°; (iii) 60°; (iv) 120°; (v) 240°; (vi) 96°

3. (A)

4. (C)

5. Limit 7 motion (–4 to +4)

6. (D)

7. (C)

8. (B)

9. (A)

10. (B)

11. (i) sin (135°); (ii) $\sqrt{3}/2$;(iii) tan (–45°) = –1; (iv) $-\sqrt{3}/2$; (v) $-\sqrt{3}/2$; (vi) –1

Note – If you have any query/issue

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