

۱- جواب کلی معادله مثلثاتی  $\operatorname{tg}\left(x + \frac{\pi}{4}\right) + \operatorname{tg}\left(x - \frac{\pi}{4}\right) = 2\sqrt{3}$  به کدام صورت است؟

$$k\pi + \frac{\pi}{4} \quad (4)$$

$$k\pi + \frac{\pi}{6} \quad (3)$$

$$\frac{k\pi}{2} + \frac{\pi}{3} \quad (2)$$

$$\frac{k\pi}{2} + \frac{\pi}{6} \quad (1)$$

۲- جواب کلی معادله مثلثاتی  $\cos x \cos 2x = 1 + \sin 2x \sin x$  کدام است؟

$$(2k+1)\frac{\pi}{2} \quad (4)$$

$$k\frac{\pi}{4} \quad (3)$$

$$k\pi \quad (2)$$

$$k\frac{\pi}{2} \quad (1)$$

۳- معادله  $\sin^3(\pi+x) \cos\left(\frac{\pi}{2}+x\right) = \sin^4\left(x-\frac{\pi}{2}\right)$  در بازه  $[0, 2\pi]$  چند جواب دارد؟

$$6 \quad (4)$$

$$4 \quad (3)$$

$$3 \quad (2)$$

$$2 \quad (1)$$

۴- جواب کلی معادله مثلثاتی  $(\sin x + \cos x)^2 = \frac{1}{3} \operatorname{tg}^2\left(\frac{2\pi}{3}\right)$  کدام است؟

$$k\pi + \frac{\pi}{4} \quad (4)$$

$$k\pi - \frac{\pi}{3} \quad (3)$$

$$k\pi + \frac{\pi}{2} \quad (2)$$

$$k\pi - \frac{\pi}{4} \quad (1)$$

$$4 \quad (4)$$

$$2 \quad (2)$$

$$1 \quad (1)$$

۵- معادله  $2\sin^2 x - 1 = 0$  چند جواب بین صفر و  $2\pi$  دارد؟

$$3 \quad (3)$$

$$2 \quad (2)$$

$$1 \quad (1)$$

$$2 \quad (2)$$

$$1 \quad (1)$$

$$0 \quad (0)$$

$$-1 \quad (-1)$$

$$-2 \quad (-2)$$

$$-3 \quad (-3)$$

$$-4 \quad (-4)$$

$$-5 \quad (-5)$$

$$-6 \quad (-6)$$

$$-7 \quad (-7)$$

$$-8 \quad (-8)$$

$$-9 \quad (-9)$$

$$-10 \quad (-10)$$

$$-11 \quad (-11)$$

$$-12 \quad (-12)$$

$$-13 \quad (-13)$$

$$-14 \quad (-14)$$

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