

Classroom Voting Questions: Precalculus

Solving Trigonometric Equations

1. For θ in the interval $[0, 2\pi)$, find all solutions of the equation $\sin \theta = \frac{1}{2}$.

(a) $\theta = \frac{\pi}{6}$

(b) $\theta = \frac{\pi}{6}$ and $\theta = \frac{5\pi}{6}$

(c) $\theta = \frac{\pi}{6}$, $\theta = \frac{5\pi}{6}$, $\theta = \frac{7\pi}{6}$, and $\theta = \frac{11\pi}{6}$

(d) None of the above

2. Solve the equation $\tan \theta = 1$.

(a) $\theta = \frac{\pi}{4}$

(b) $\theta = \frac{\pi}{4}$ and $\theta = \frac{5\pi}{4}$

(c) $\theta = \frac{\pi}{4} + 2\pi n$, where n is any integer

(d) $\theta = \frac{5\pi}{4} + \pi n$, where n is any integer

3. Solve the equation $\sin \theta \tan \theta = \tan \theta$.

(a) $\theta = \frac{\pi}{2} + 2\pi n$, where n is any integer

(b) $\theta = \frac{\pi}{2} + 2\pi n$ and $2\pi n$, where n is any integer

(c) $\theta = \frac{\pi}{2} + 2\pi n$ and πn , where n is any integer

(d) πn , where n is any integer