Preliminary Test 1A

Teachers Teaching with Technology™
Professional Development from Texas Instruments

Name: _____

7 8 9 10 11 **12**

Navigator | Assessment | Student | 25 min

Question: 1

Convert 170^{o} into radians.

Question: 2

Convert $\frac{5\pi}{9}$ into degrees.

Question: 3

If $\sin(x) = -\frac{3}{5}$ and $\pi \le x \le \frac{3\pi}{2}$ then which one of the following is true?

a) $\cos(x) = \frac{4}{5}$ b) $\cos(x) = -\frac{4}{5}$ c) $\tan(x) = \frac{3}{5}$ d) $\tan(x) = -\frac{4}{3}$ e) $\tan(x) = \frac{4}{3}$

Question: 4

If $\sin(\theta) \cdot \cos(\theta) = -\frac{\sqrt{3}}{4}$ then θ could be:

a) $\frac{\pi}{6}$ b) $\frac{\pi}{4}$ c) $\frac{\pi}{3}$ d) $\frac{2\pi}{3}$ e) $\frac{7\pi}{6}$

Question: 5

A possible equation for the graph shown could be:

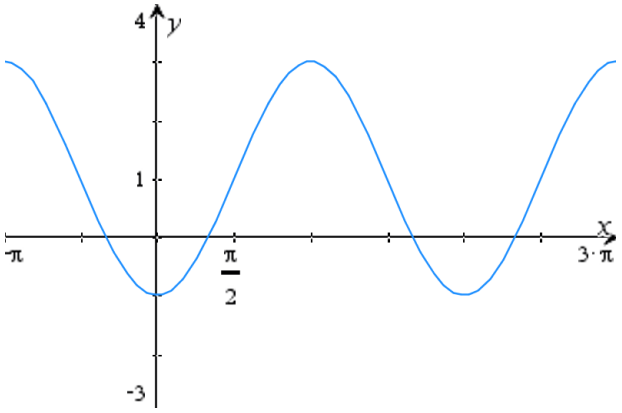
a) $y = 2\cos(x) + 1$

b) $y = 2\sin(x) + 1$

c) $y = -2\cos(x) + 1$

d) $y = -2\sin(x) + 1$

e) $y = -\cos(x) + 1$



Author: P. Fox

Question: 6

Which one of the following will not have an x intercept:

a) $y = 2\sin(x) + 3$

b) $y = 3\sin(x) + 2$

c) $y = -\cos(x) + 1$

d) $y = -2\cos(x) + 1$

e) $y = \tan(x) - 2$

Question: 7

Which one of the following equations has exactly 2 solutions?
[Note the restricted domain for each]

a) $\sin\left(\frac{x}{2}\right) = \frac{1}{2}, \quad x \in [0, \pi]$

b) $\cos\left(\frac{x}{2}\right) = \frac{1}{2}, \quad x \in [0, \pi]$

c) $\cos(2x) = \frac{1}{2}, \quad x \in [0, 2\pi]$

d) $\sin(2x) = \frac{1}{2}, \quad x \in [0, \pi]$

e) $\sin\left(\frac{x}{3}\right) = \frac{1}{2}, \quad x \in [0, 2\pi]$

Question: 8

If S is the sum of the solutions over the domain: $[-\pi, \pi]$, for which of the following equations will S = 0?

a) $\tan(x) = 1$ b) $\cos(x) = \frac{1}{2}$ c) $\sin(x) = \frac{1}{2}$ d) $\tan(2x) = 1$ e) $\sin(2x) = \frac{1}{2}$

Author: P. Fox