

Trig QZ 12

11.19.2012

16. _____

Block _____

_____ 1. Consider the equation $y = \frac{-3}{5} \sin\left(\frac{2}{7}\left(x - \frac{\pi}{4}\right)\right) + 4$. Give the period of the graph in radians.

_____ 2. Consider the equation $y = \frac{-3}{5} \sin\left(\frac{2}{7}\left(x - \frac{\pi}{4}\right)\right) + 4$. Give the size, direction of vertical shift

_____ 3. Consider the equation $y = \frac{-3}{-5} \sin\left(\frac{2}{17}\left(x + \frac{\pi}{4}\right)\right) - 4$. Give the size, direction of vertical shift.

_____ 4. Consider the equation $y = \frac{-3}{5} \tan\left(\frac{2}{7}\left(x - \frac{\pi}{4}\right)\right) + 4$. Give the period of the graph of this function (in radians, please).

_____ 5. Consider the equation $y = \frac{-3}{5} \sin\left(\frac{2}{7}\left(x - \frac{5\pi}{6}\right)\right) + 4$. Give the amplitude of the graph.

_____ 6. Consider the equation $y = 2 \sin\left(x - \frac{\pi}{4}\right) - 1$. Give the exact value of the third point where the graph of this function will cross the x-axis to the right of the origin.

_____ 7. Evaluate $\cos\left(\arctan\left(\frac{15}{8}\right)\right)$. Please assume the angle is in standard position and terminates within first quadrant.

_____ 8. Give the exact value of $\cot(-1500^\circ)$.

_____ 9. Consider the equation $y = 2 \cos\left(\frac{2}{3}\left(x - \frac{\pi}{4}\right)\right)$. Give the exact value of the coordinates of the second place where the graph crosses the x-axis to the left of the origin.

_____ 10. Perhaps with the aid of a calculator evaluate $\sec\left(\frac{-210\pi}{2}\right)$ (radians)

_____ 11. Evaluate $\cos\left(\arcsin\left(\frac{2x}{5}\right)\right)$. The angle is in standard position and terminates in first quadrant.

Evaluate in terms of x and 8, this means don't introduce another variable other than x.

_____ 12. Which of the following is equivalent to this expression: $\tan^2 \theta \csc \theta$

A. $\tan(\theta) \cos(\theta)$ B. $\tan(\theta) \sec(\theta)$ C. $\tan^2(\theta)$

D. $\tan(\theta) \sin(\theta)$ E. $\tan(\theta) \cot(\theta)$ F. $\csc(\theta) \tan(\theta)$

_____ 13. A student was solving a trigonometric equation and came up with the following three

solutions, $x = \frac{-\pi}{7}, \frac{\pi}{5}, \frac{2\pi}{3}$. The student was pretty confident these angles were correct but

then noticed that the instructions said "solve for all solutions $2\pi \leq x < 4\pi$ ". Assuming the student's original solutions were correct, what answers satisfy the condition given in the instructions?

_____ 14. Solve the following trig equation for all solutions $0 \leq x < 2\pi$. $2\sin^2 x - \cos x - 1 = 0$

_____ 15. Solve the following trig equation for all solutions $0 \leq x < 2\pi$. $\sec x \csc x = 2 \csc x$