Name _____

enVision Algebra 2

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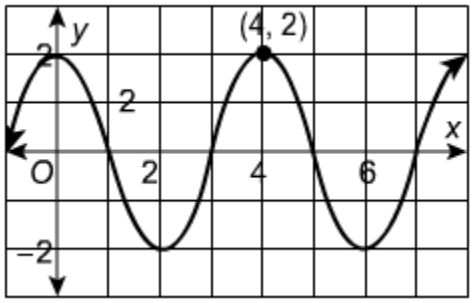
7 Topic Review

1. Given that the $\cos\theta = \frac{12}{20}$, evaluate the five trig ratios.

2. The graph of *f* is given. How are f and g(x) = 4sin(πx) different? What can you conclude about the period and amplitude of the two functions?



3. A. If $\cot\theta = \tan 50^\circ$, what is θ? B. If $\tan\theta = \cot 20^\circ$, what is θ?

4. Max is observing a window washer on a building from about 217 feet away. What function models the height, h, in feet of the window washer as a function of the angle of inclination θ from Max's position to the window washer?

5. Today, high tide measured 12.5 feet and low tide measured 7 ft. What is the amplitude os a cosine function modeling the depth of the water in feet as a function of time in hours?

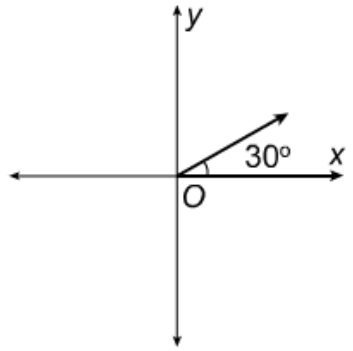
6. Using the function, $y = 3\sin(\frac{x}{2}) - 4$, identify the amplitude and the equation of the midline.

7. Please indicate true or false for the following function: y = tanx . If false, please change the statement to make it true.

- The period of tan is π.
- The function is increasing only on half of its domain.
- The function has zeros whenever cscx = 0
- The function has vertical asymptotes whenever cosx = 0

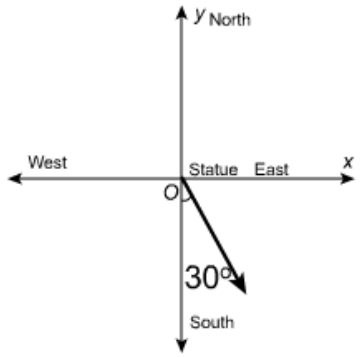
8. When the sun shines at a 55^0 angle to the ground, the mailbox's shadow is 24 inches long. To the nearest inch, how tall is the mailbox?

9. Using the diagram below, write the measure of the angle as two different positive measurements and two different negative measurements.



10. What is the phase shift of the graph $y = -\sin(x + \frac{\pi}{2}) - 1$?

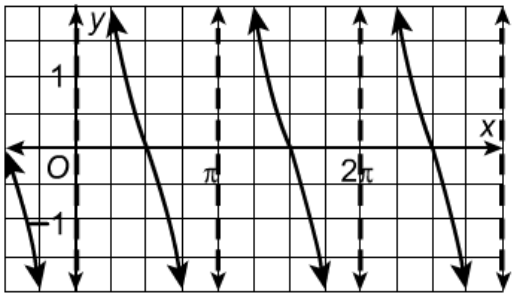
11. Mike walks away from a statue in a park at (0, 0) a rate of 5 miles per hour in the direction 30^0 east of south of the statue. What are the coordinates of Mike's location, relative to the statue, after 2 hours?



12. An angle has a reference angle of 40^0 and its terminal side is in Quadrant IV. What are possible positive and negative measures for the angle?

13.

What equation is represented by the graph?



- A. $y = 2 \cot x$
- B. $y = 2 \tan x$
- C. $y = \tan 2x$
- D. $y = \cot 2x$

14. What is the $\cos\theta$ if $\sin\theta = \frac{7}{25}$ and θ is in quadrant II?

15. A car is on a spinning carnival ride with a radius of 25ft. To the nearest foot, how far does the car travel over an angle $\frac{2\pi}{3}$ radians?

For #16-31, make a sketch to help you evaluate each trig function.

16. $\sec 60°$

17. $\cos\left(-\frac{2\pi}{3}\right)$

18. $\cos 225°$

19. $\sin\left(\frac{4\pi}{3}\right)$

20. $\csc\left(\frac{\pi}{4}\right)$

21. $\cot\left(\frac{3\pi}{4}\right)$

22. $\tan -210°$

23. $\cos\left(-\frac{3}{2}\pi\right)$

24. $\sin\left(-\frac{5\pi}{3}\right)$

25. $\csc(-60°)$

26. cos(-90°)

27. $\cot -225°$

28. cot 360°

29. sec (-135°)

30. $\cos\left(\frac{\pi}{6}\right)$

31. sin 150°