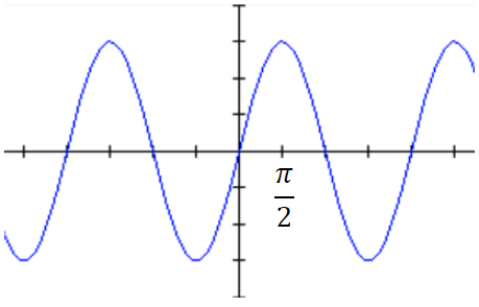
1.10 High Noon and Sunset Shadows

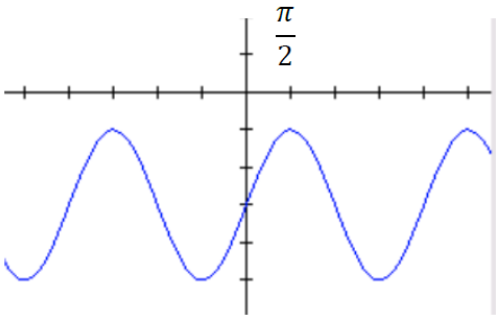
Practice

I. State the period, amplitude, phase shift and vertical shift of the function in the graph. Then write the equation. **Use the same trigonometric function as the one that is given.**

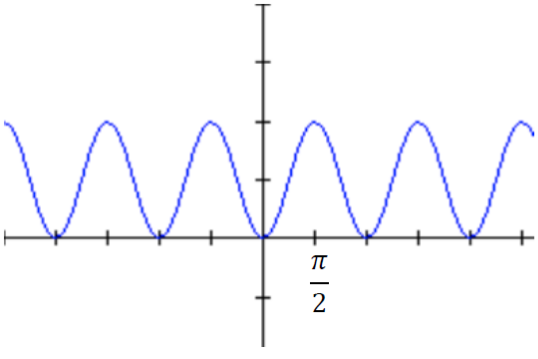
1. $y = \sin x$



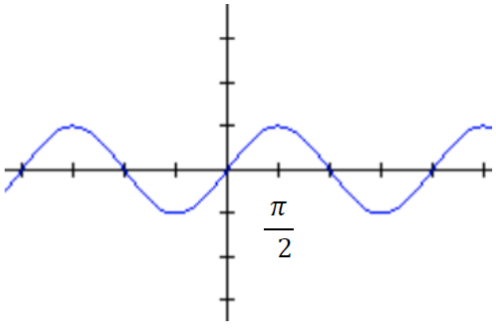
2. $y = \sin x$



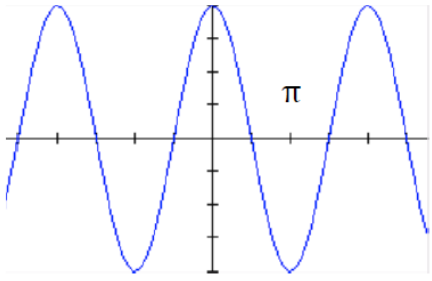
3. $y = \cos x$



4. $y = \cos x$



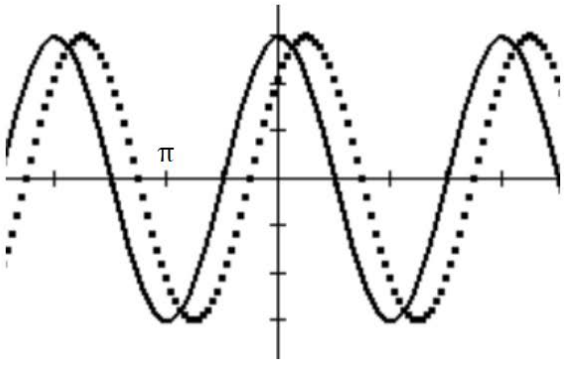
9. $y = \sin x$



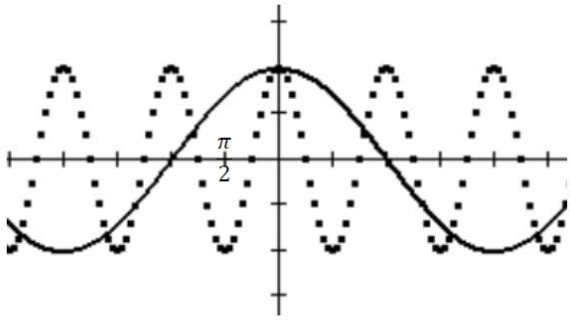
10. The cofunction identity states that $\sin\theta = \cos(90° - \theta)$ and $\sin(90° - \theta) = \cos\theta$. How does this identity relate to the graph in #9? Explain where you would see this identity in a right triangle.

Describe the relationships between the graphs of *f (solid)* and *g (dotted)*. Then write their equations.

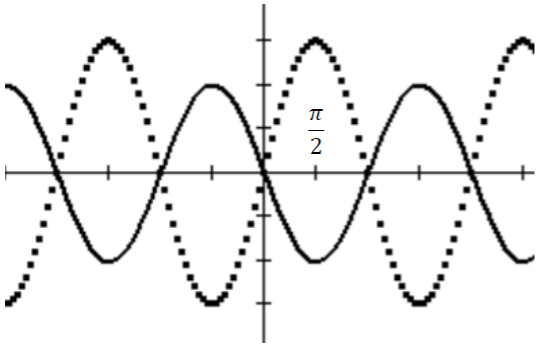
11.



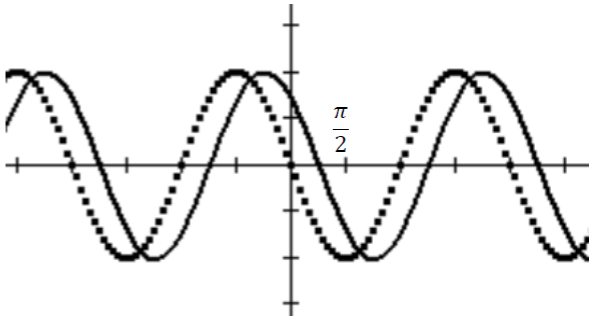
12.



13. This graph could be interpreted as a shift or a reflection. Write the equations both ways.

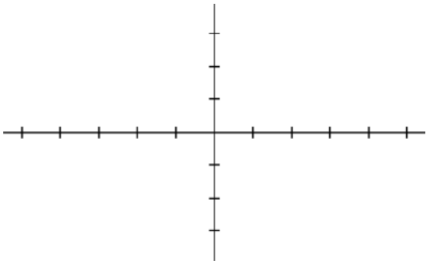


14.

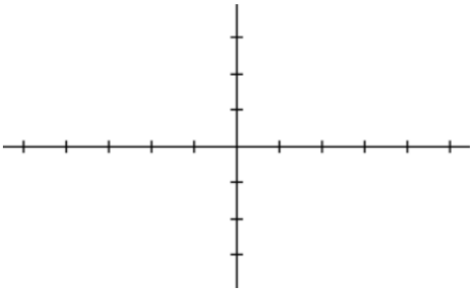


Sketch the graph of the function. (Include 2 full periods. Label the scale of your horizontal axis.)

15. $y = 3\sin\left(x - \frac{\pi}{2}\right)$



16. $y = -2\cos(x + \pi)$



II. Trig Ratios in the Unit Circle

Name two values for θ (angles of rotation) that have the given trig ratio.

17. $\sin\theta = \frac{\sqrt{2}}{2}$

18. $\cos\theta = \frac{\sqrt{2}}{2}$

19. $\cos\theta = -\frac{1}{2}$

20. $\sin\theta = 0$

21. $\sin\theta = -\frac{\sqrt{3}}{2}$

22. $\cos\theta = -\frac{\sqrt{3}}{2}$

23. For which angles of rotation does $\sin\theta = \cos\theta$?

III. Assessment – Khan Academy

1. Complete the following online worksheet in the Functions unit of Khan Academy's Algebra 2 course:
   a. https://www.khanacademy.org/math/algebra2/trig-functions/intro-to-amplitude-and-midline-of-sinusoids-alg2/e/midline-of-trig-functions
   b. https://www.khanacademy.org/math/algebra2/trig-functions/intro-to-amplitude-and-midline-of-sinusoids-alg2/e/amplitude-of-trig-functions