

APPC Lesson 6.5 Homework

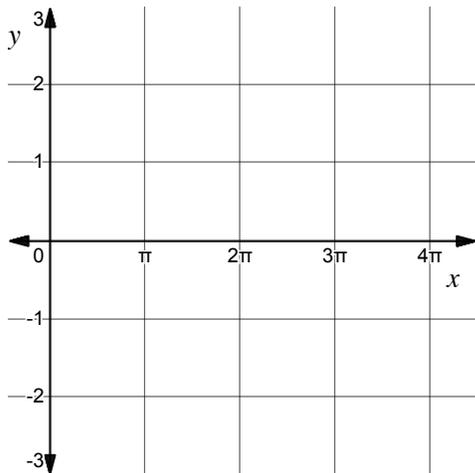
Name _____

1. When graphing $y = \cos x$ on the xy -coordinate plane, describe what is measured on the x -axis and y -axis.

2. Is the point $\left(\frac{\pi}{2}, 0\right)$ on the graph of $y = \sin x$? Explain.

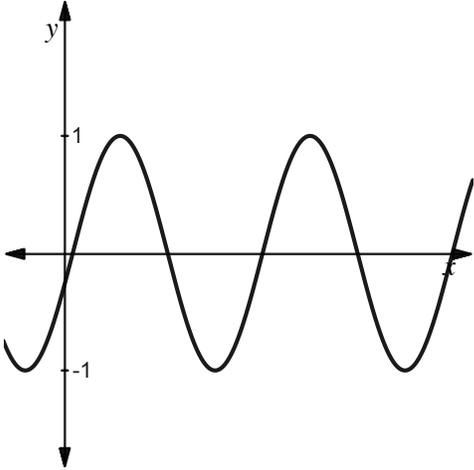
3. Describe what is meant by the statement "the period of $y = \sin x$ is 2π ".

4. Graph $y = \cos x$ for $\pi \leq x \leq 4\pi$.



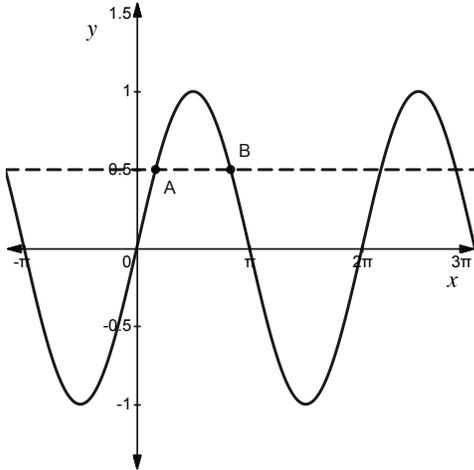
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5. Could this be the graph of $y = \sin x$? Why or why not?



6. For which of the following functions is it true that $f(-x) = f(x)$?
- A) $f(x) = \sin x$
 - B) $f(x) = \cos x$
 - C) Both $f(x) = \sin x$ and $f(x) = \cos x$.
 - D) Neither $f(x) = \sin x$ nor $f(x) = \cos x$.

7. The graph of $y = \sin x$ is shown. Find the coordinates of points A and B.



8. Kai says the amplitude of $y = \cos x$ is 2 since the distance between the maximum and the minimum value is 2. Is Kai correct? Explain.



9.

Consider the graph of $y = \cos x$.

- Identify the ordered pairs of three x -intercepts of $y = \cos x$.
- What does an x -intercept on the graph of $y = \cos x$ represent? Explain using your knowledge of the unit circle.
- Can you come up with a rule for identifying all the x -intercepts of $y = \cos x$?
- Is the distance between the x -intercepts the same as the period of the function? Why or why not?

10. The graphs of $y = \cos x$ and $y = \sin x$ are shown in the xy coordinate plane for $-\frac{3\pi}{2} \leq x \leq 2\pi$.

- Identify the ordered pairs of two intersection points and explain what these intersections represent.
- Identify an interval of the domain where $\cos x > \sin x$ and explain why this is true using the graph.

