Which One Doesn't Belong?
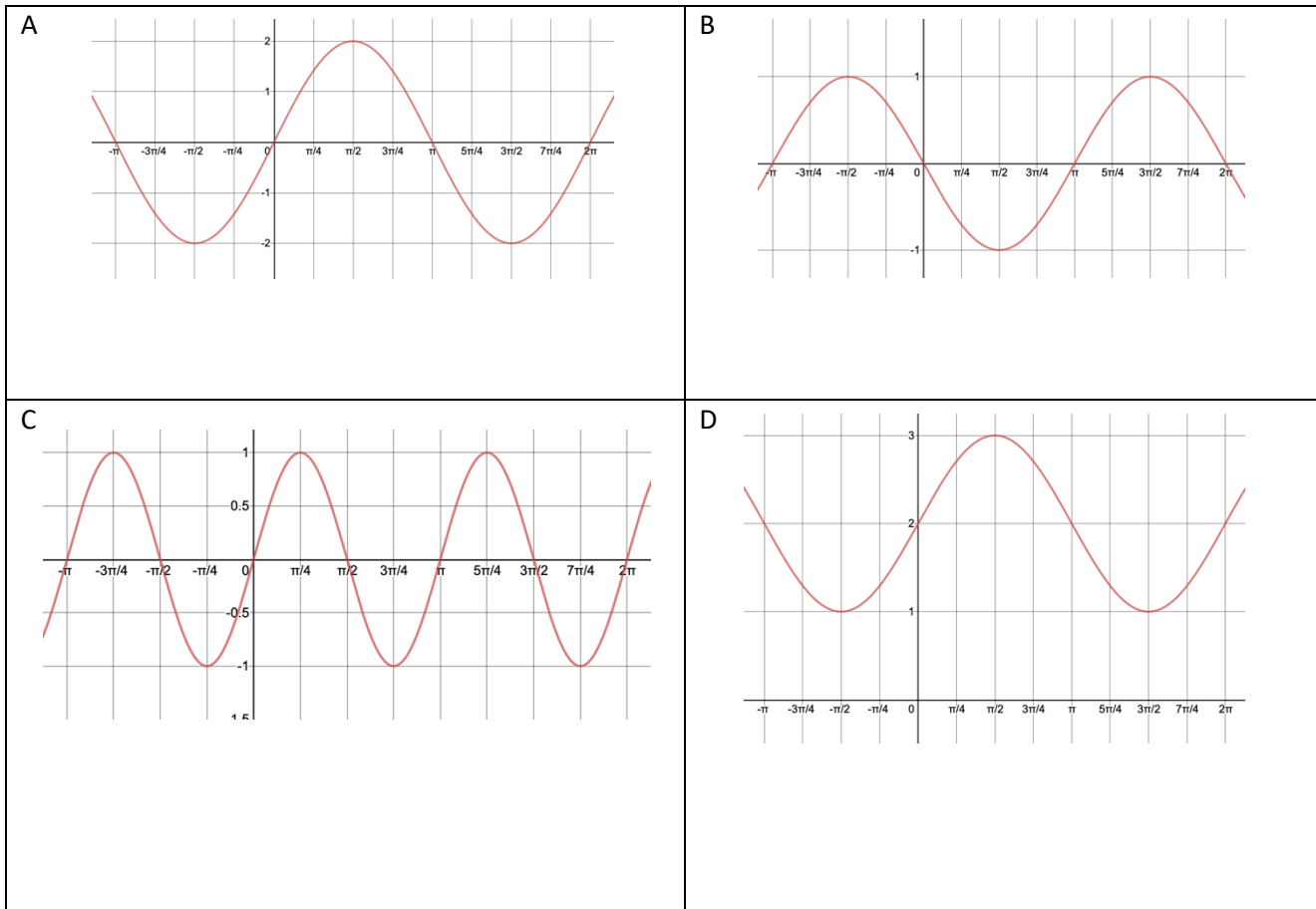
Name:_____

Yesterday we learned about the graphs of the parent functions $y = \sin x$ and $y = \cos x$. Today we'll see how transformations affect these graphs.

1. Give a convincing argument for which of the four graphs doesn't belong. Can you find a reason for each of the graphs?

A

B

C

D

2. The four equations below represent the four graphs. Match each equation with its graph without the use of a calculator.

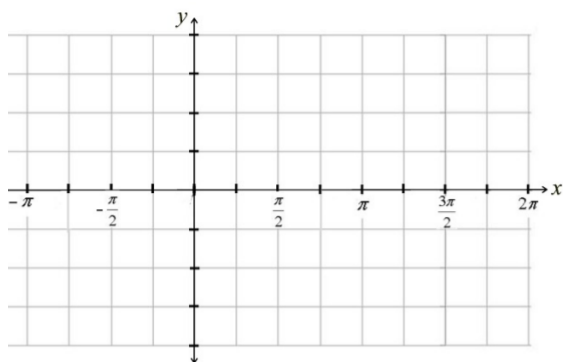| $y = \sin(2x)$	$y = 2\sin x$
$y = \sin(x - \pi)$	$y = \sin x + 2$

3. Kennedy thinks that the graph of $y = \sin(x - \pi)$ could also be written as $y = -\sin x$. Do you agree or disagree? Explain.
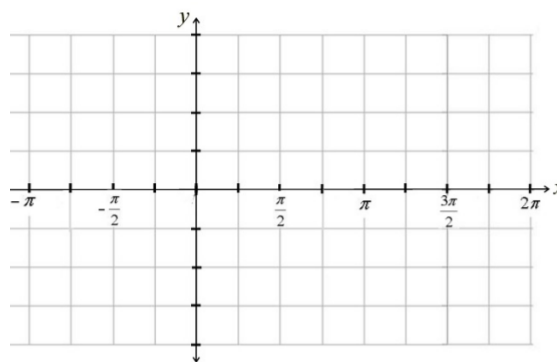
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Important Ideas:

Check Your Understanding!

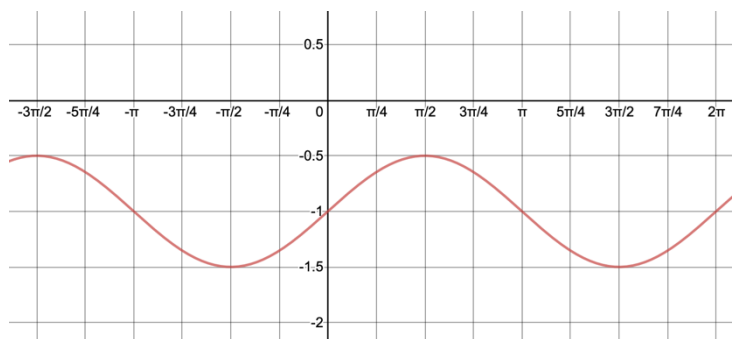1. a) Graph $y = -3\cos x$

b) Graph $y = 2\sin(x - \frac{\pi}{2})$

2. Determine the domain, range, period, and amplitude of $y = 5\cos\left(\frac{1}{2}x\right) + 2$

3. The equation for the graph below is given by $y = A\sin(Bx) + C$. Find the values of A, B, and C.

4. Which of the following equations is NOT equivalent to the other three?

A) $y = \cos(x + \frac{\pi}{2})$

B) $y = \sin(-x)$

C) $y = \sin(x + \pi)$

D) $y = -\cos(x)$

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