

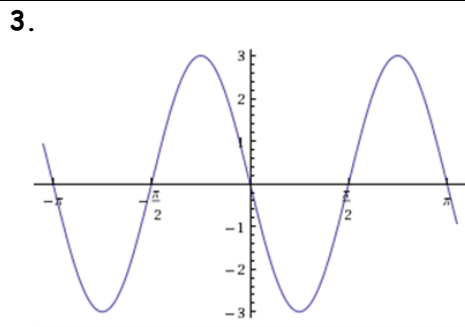
4.5 Review Worksheet

Identify the amplitude, period, and phase shift of the given function.

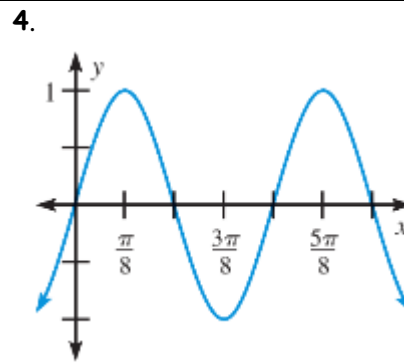
1. $y = 3 \cos\left(x + \frac{\pi}{4}\right) + 1$

2. $y = 5 \sin\left(2x - \frac{\pi}{3}\right)$

Write the indicated function of each graph.



Sine: _____



Cosine: _____

Write the equation of a function with the given characteristics.

5. Cosine Function
 Amplitude = 2
 Period = $\frac{\pi}{3}$
 Vertical shift = 1

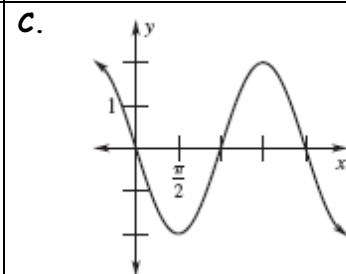
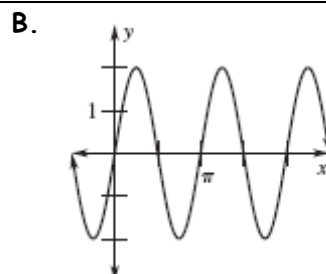
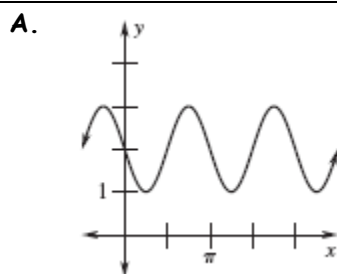
6. Sine Function
 Amplitude = 3
 Period = 8π
 Phase Shift = $\frac{\pi}{2}$
 Reflection in the x-axis

Match the function to its graph.

7. $y = 2 \sin(2x)$

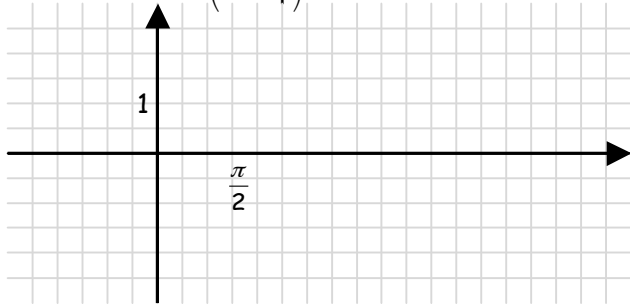
8. $y = 2 - \sin(2x)$

9. $y = -2 \sin x$



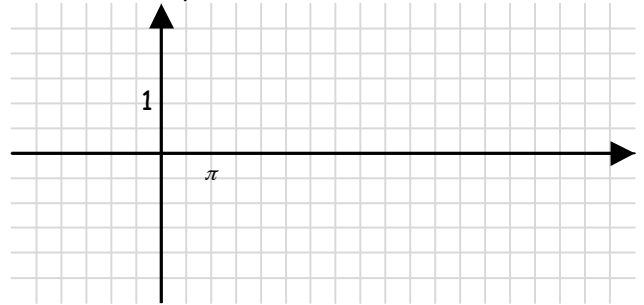
Graph each of the functions. Include all relative extrema and intercepts. Graph as many periods of the function that will fit on the grid provided. List the amplitude, period, phase shift, and vertical shift for each function.

10. $y = -\sin\left(x - \frac{\pi}{4}\right)$



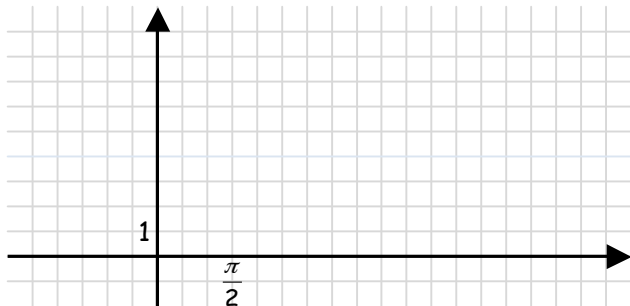
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11. $y = 2\cos\frac{1}{4}x$



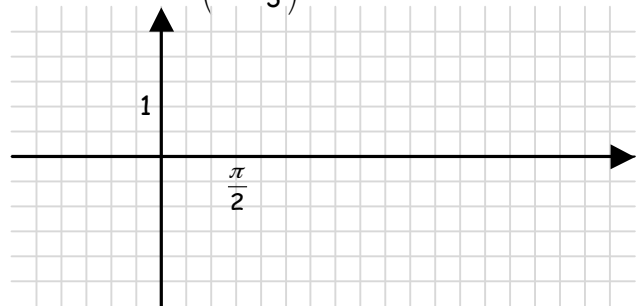
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12. $y = -3\cos(x - \pi) + 4$



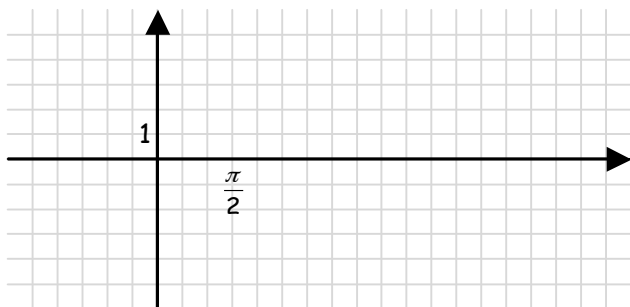
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13. $y = \cos\left(x + \frac{\pi}{3}\right) + 1$



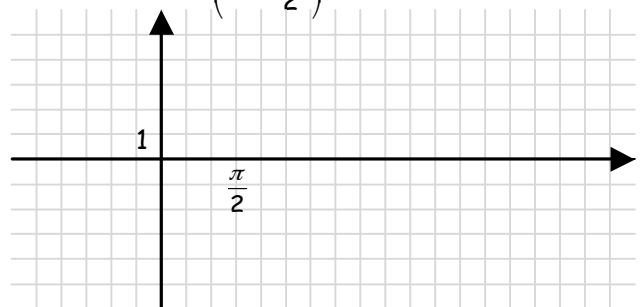
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14. $y = -1 + 3\sin(x + \pi)$



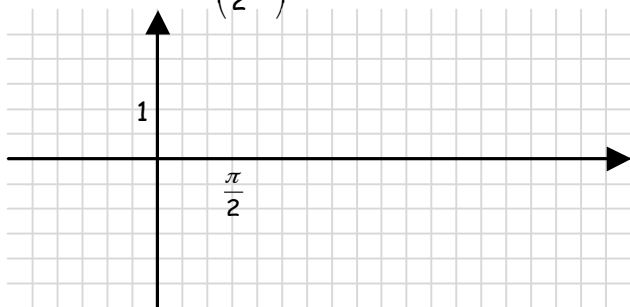
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15. $y = 3\sin\left(x - \frac{3\pi}{2}\right) - 2$



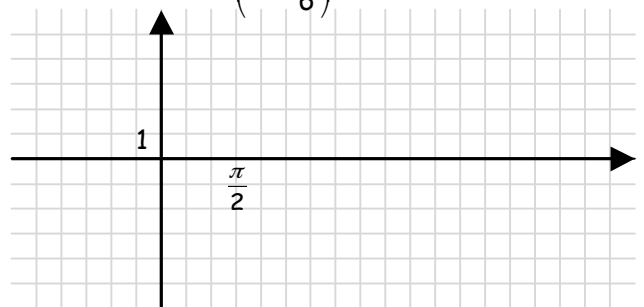
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16. $y = -\cos\left(\frac{1}{2}x\right) - 2$



Amp: _____ Per: _____ PS: _____ VS: _____

17. $y = -2\cos\left(x + \frac{\pi}{6}\right)$



Amp: _____ Per: _____ PS: _____ VS: _____

