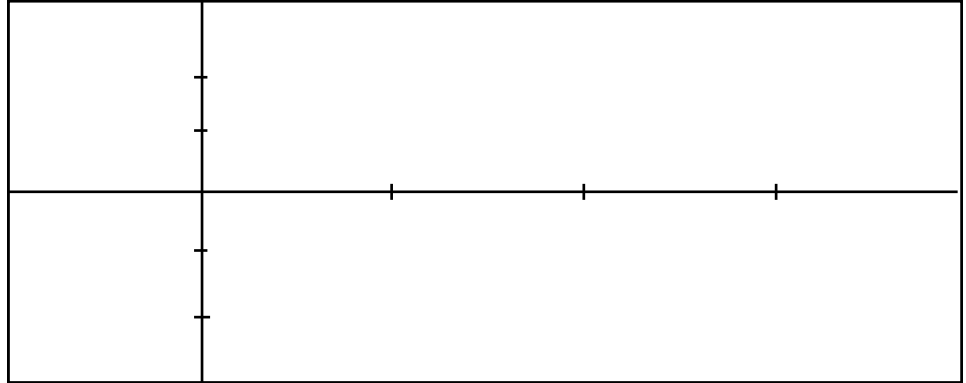


Chapter 4 Practice Problems

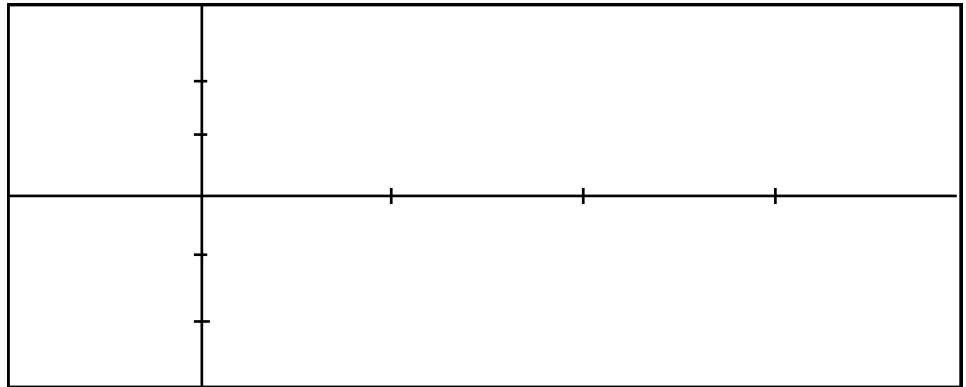
Directions: Place all work and answers on another piece of paper except for the graphs. Be sure to write neatly and circle your answers.

DIRECTIONS: Graph each function on the given interval.

1. $y = \sec x$, for $\left[\frac{\pi}{2}, \frac{3\pi}{2}\right]$.

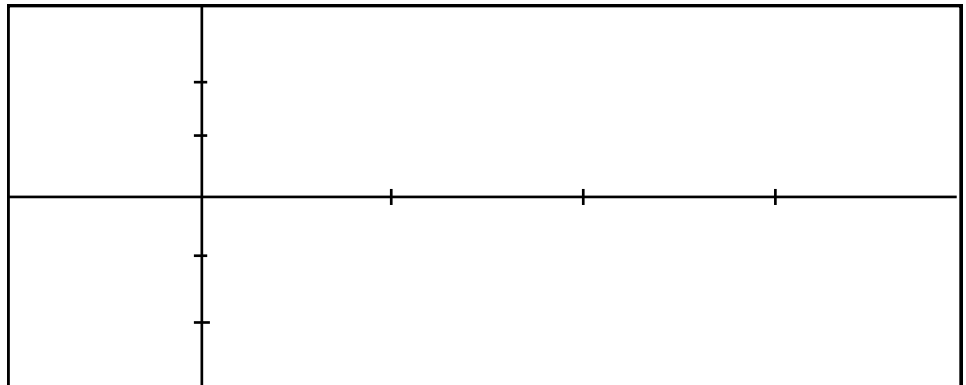


2. $y = \cot x$, for $[0, 2\pi]$.



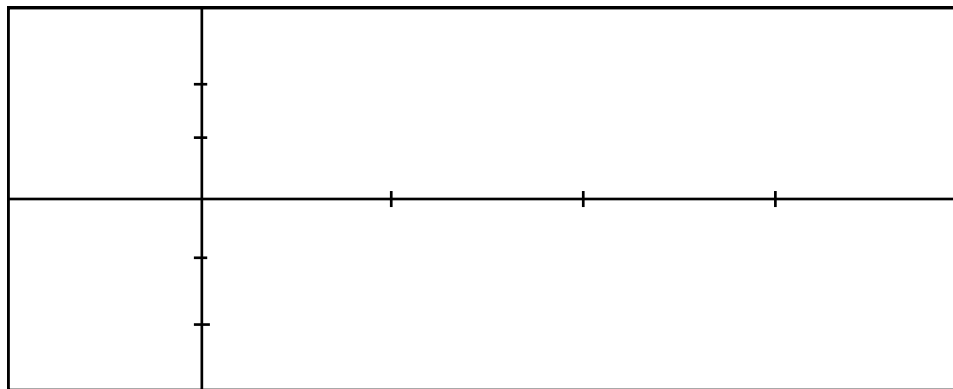
DIRECTIONS: Show your work to find the amplitude, period and phase and vertical shifts. Label the axis so the amplitude, period, phase, vertical shifts and tick marks are easy to read. Show calculations, formulas and graph data on the left side scratch space. Graph **ONLY** one cycle.

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

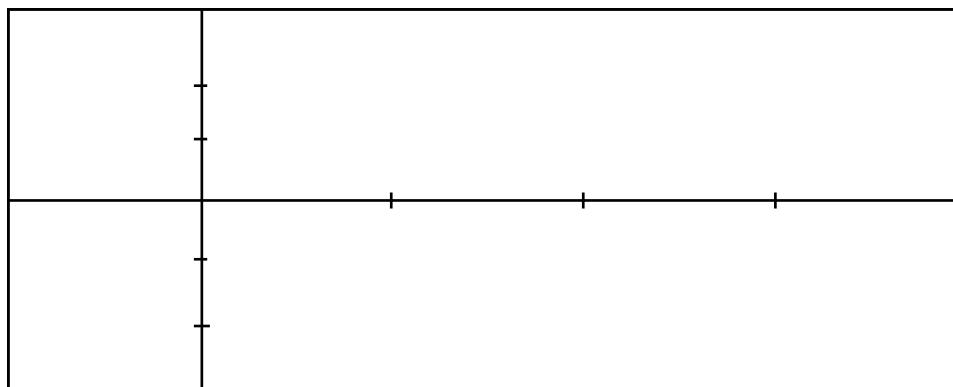


Graph **ONLY** one cycle and use the directions above #3.

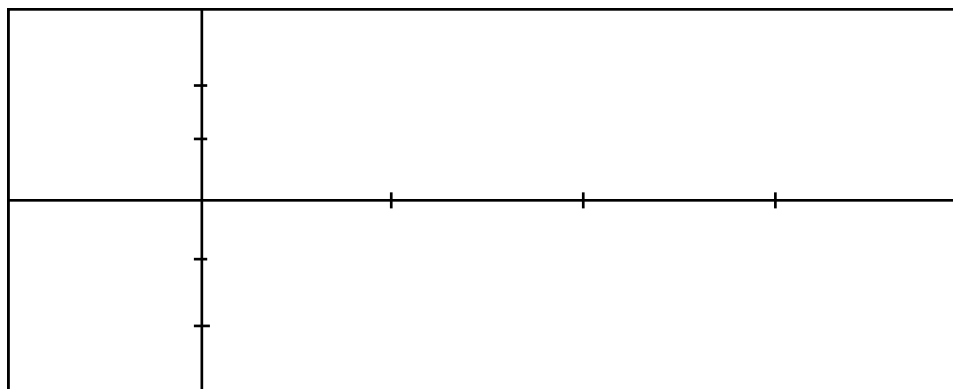
4. $y = -\sin(2x)$



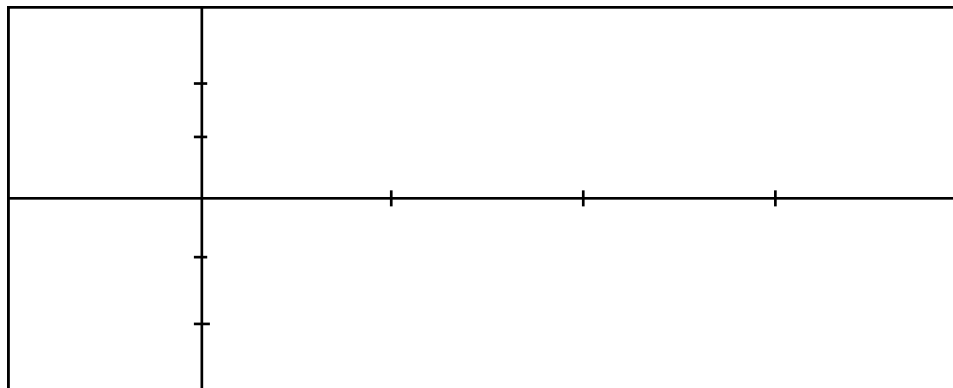
5. $y = 3\cos\left(\frac{1}{3}x\right)$



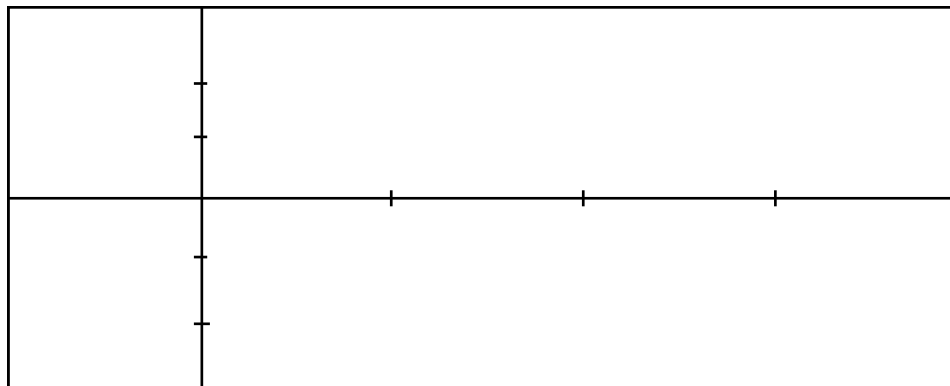
6. $y = 2\sin(2\pi x)$



7. $y = 4\cos\left(x + \frac{\pi}{2}\right)$



8. $y = 4\sin\left(2x - \frac{\pi}{4}\right)$



9. ~~Sketch the graph of $y = 2 + \sin x$, for x between 0 and 2π~~ (from 4.6 was skipped)

10. ~~Sketch the graph of $y = 2x + 2\sin x$, for x between 0 and 4π~~ (from 4.6 was skipped)

11. Graph $y = \cos^{-1}x$. (Give it a try but it is not the test.)

Evaluate each expression without using a calculator and write your answer in radians.

12. $\arcsin(1)$

13. $\arccos\left(-\frac{1}{2}\right)$

Use a calculator to evaluate each expression to the nearest tenth of a degree

14. $\arctan(-0.7532)$

15. $\arccos(-0.5329)$

Evaluate without using a calculator.

16. $\sin\left(\cos^{-1}\frac{4}{5}\right)$

17. $\sec\left(\tan^{-1}\frac{1}{2}\right)$

18. Write an equivalent expression that involves χ only. (Assume χ is positive.)
 $\cos(\sin^{-1}(x + 1))$

Solutions for Chapter 4

- 1. graph
- 2. graph
- 3. graph
- 4. graph
- 5. graph
- 6. graph
- 7. graph

- 8. graph
- 9. graph
- 10. graph
- 11. graph
- 12. $\pi/2$
- 13. $2\pi/3$
- 14. -37°

- 15. 122.2°
- 16. $3/5$
- 17. $\sqrt{5/2}$
- 18. $\sqrt{-x^2 - 2x}$