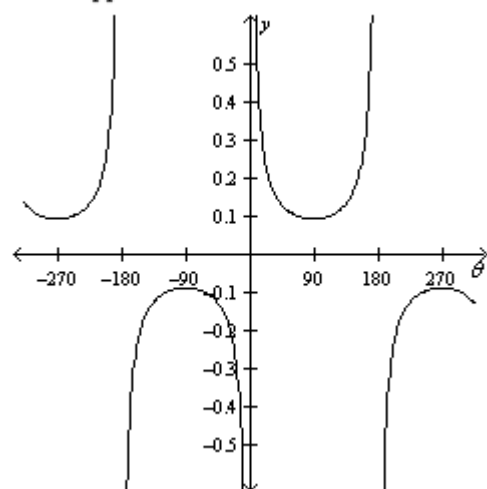


Precalculus G11-Ch4 H.W

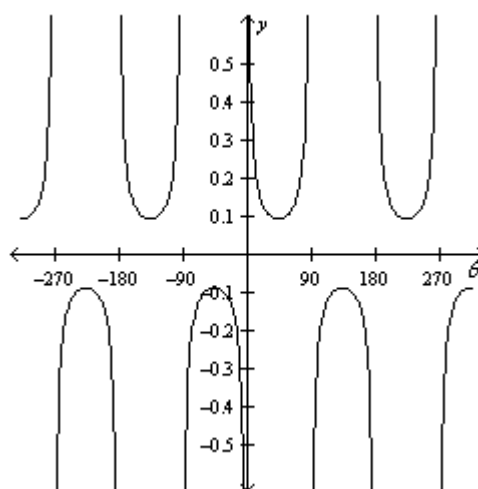
Indicate the answer choice that best completes the statement or answers the question.

1. Graph $y = \frac{1}{11} \csc \theta$.

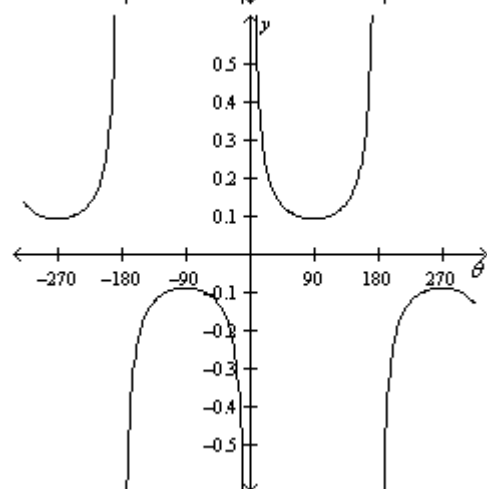
a.



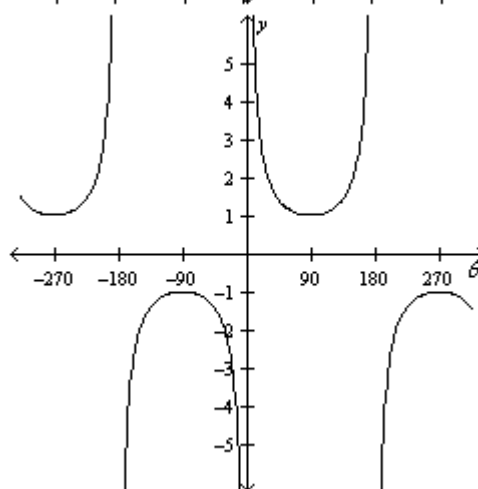
b.



c.

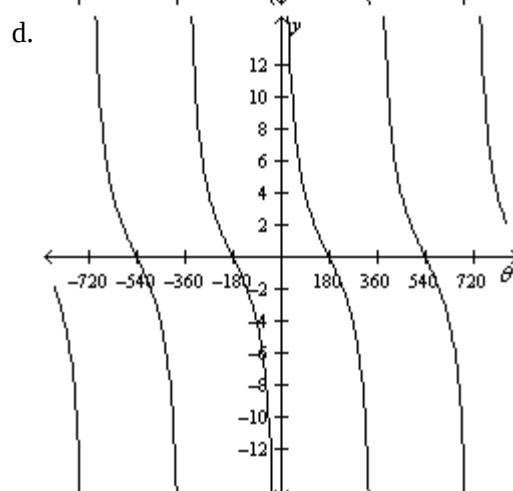
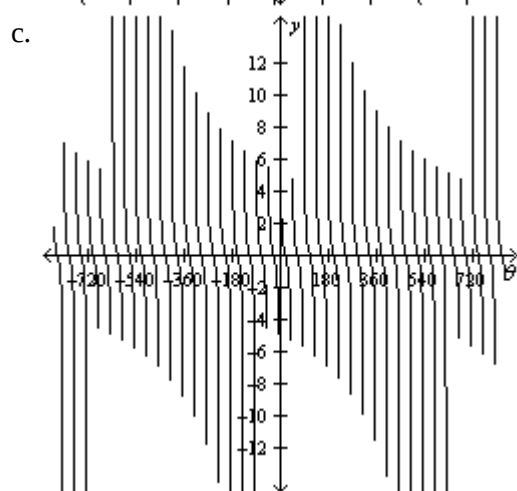
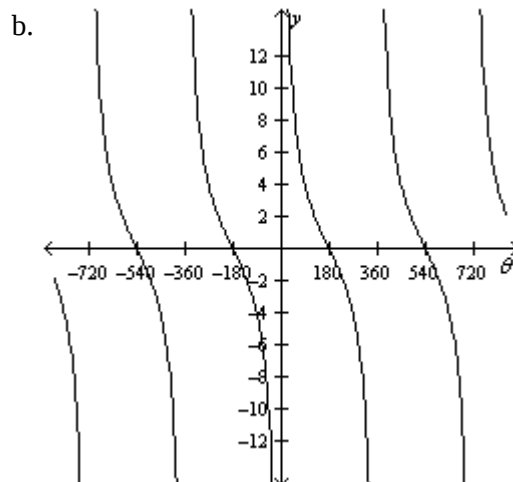
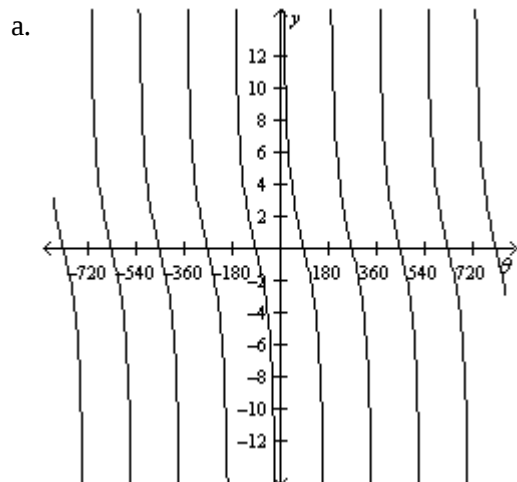


d.



Precalculus G11-Ch4 H.W

2. Graph $y = 4 \cot \frac{1}{2} \theta$.

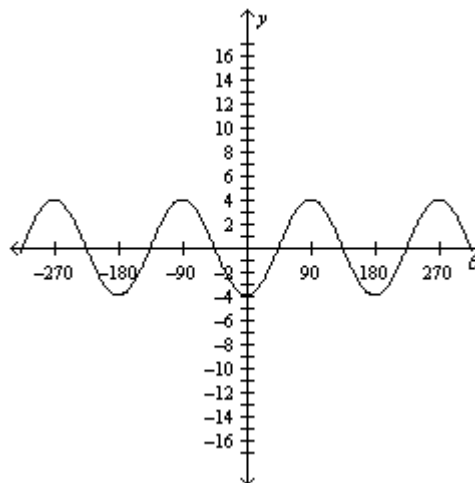
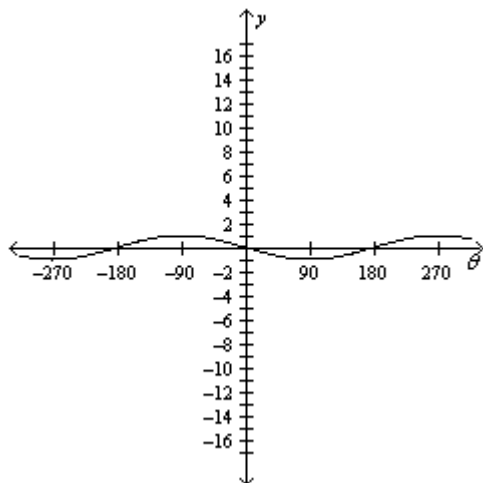


Precalculus G11-Ch4 H.W

3. Determine the amplitude, period, and phase shift for $y = 4 \cos(\theta - 90^\circ)$ and use them to plot the graph of the function.

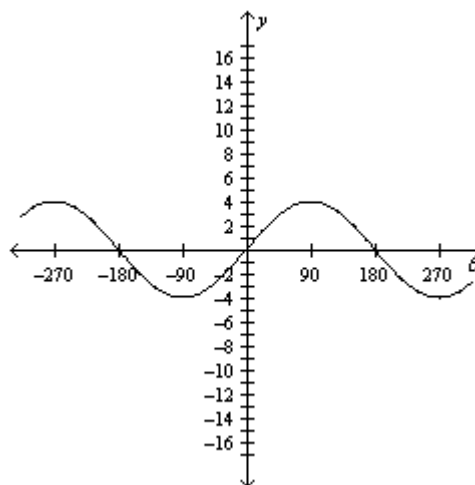
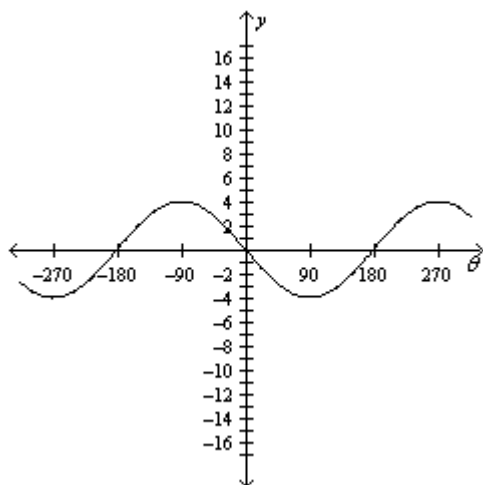
a. amplitude = 1; period = 360° ; phase shift = 90°

b. amplitude = 4; period = 180° ; phase shift = 90°



c. amplitude = 4; period = 90° ; phase shift = 360°

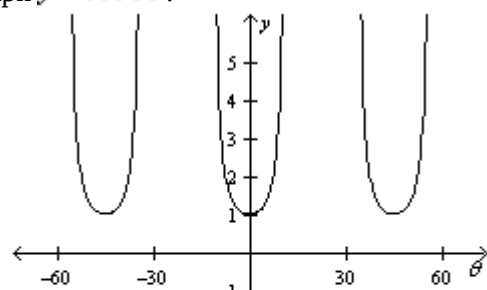
d. amplitude = 4; period = 360° ; phase shift = 90°



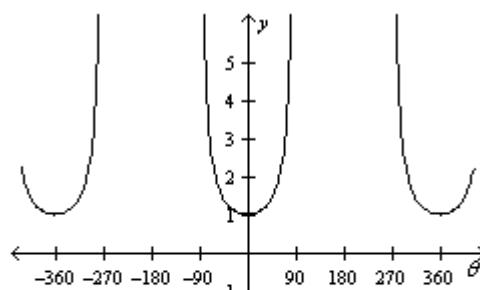
Precalculus G11-Ch4 H.W

4. Graph $y = \sec 8\theta$.

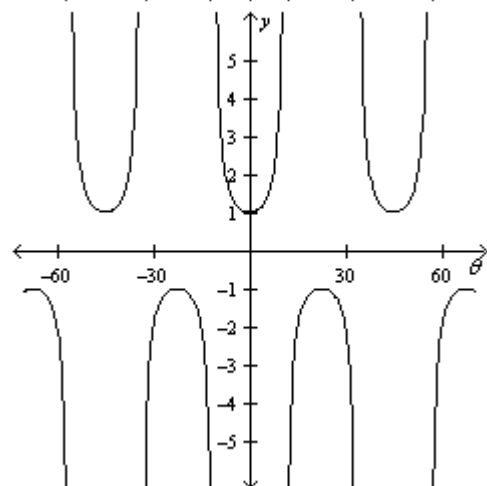
a.



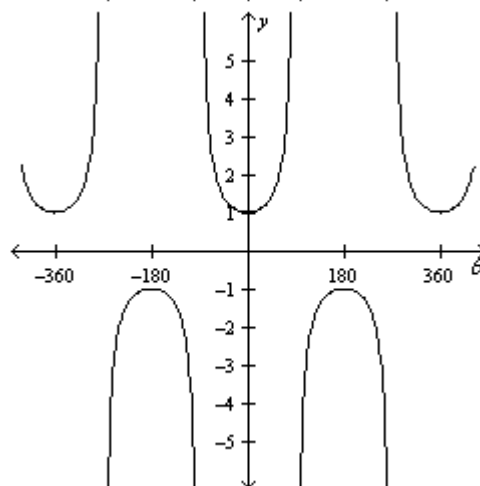
b.



c.



d.



Precalculus G11-Ch4 H.W

In the unit circle a point (1,-2) lies on the terminal side of an angle θ in standard position. Find the exact value of $\cot \theta$

5. (2, -4)

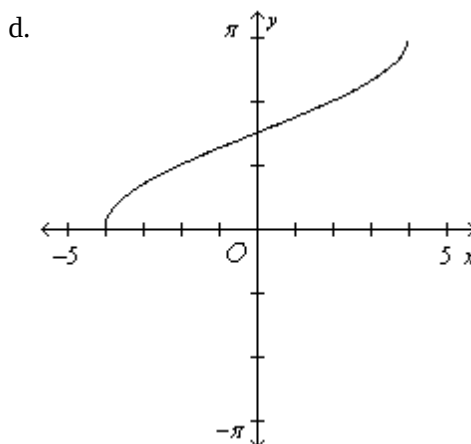
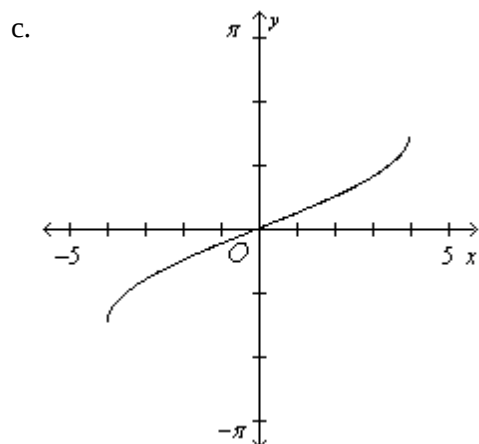
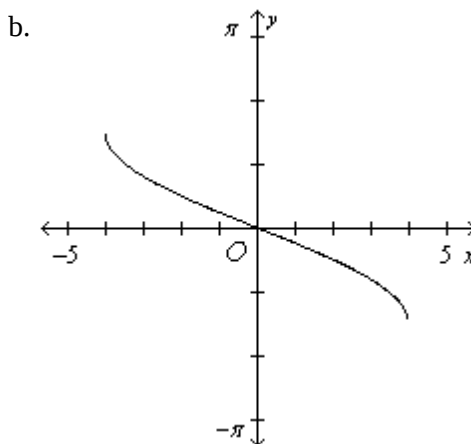
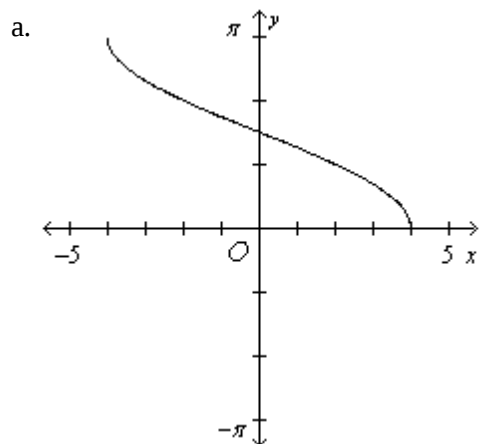
a. $\sin \theta = \frac{\sqrt{5}}{5}, \cos \theta = -\frac{2\sqrt{5}}{5}, \tan \theta = -2, \csc \theta = \sqrt{5}, \sec \theta = -\frac{\sqrt{5}}{2}, \cot \theta = -\frac{1}{2}$

b. $\sin \theta = -\frac{\sqrt{5}}{2}, \cos \theta = \sqrt{5}, \tan \theta = -\frac{1}{2}, \csc \theta = -\frac{2\sqrt{5}}{5}, \sec \theta = \frac{\sqrt{5}}{5}, \cot \theta = -2$

c. $\sin \theta = -\frac{2\sqrt{6}}{6}, \cos \theta = \frac{\sqrt{6}}{6}, \tan \theta = -2, \csc \theta = -\frac{\sqrt{6}}{2}, \sec \theta = \sqrt{6}, \cot \theta = -\frac{1}{2}$

d. $\sin \theta = -\frac{2\sqrt{5}}{5}, \cos \theta = \frac{\sqrt{5}}{5}, \tan \theta = -2, \csc \theta = -\frac{\sqrt{5}}{2}, \sec \theta = \sqrt{5}, \cot \theta = -\frac{1}{2}$

6. Graph $y = \cos^{-1}\left(-\frac{1}{4}x\right)$ on the interval $-5 \leq x \leq 5$.



Precalculus G11-Ch4 H.W**Simplify each expression.**

7. $\cos x + \sin x \tan x$

- a. $\cot x$
- b. $\csc x$
- c. $\sec x$
- d. $-\sec x$

8. Suppose θ is an angle in the standard position whose terminal side is in Quadrant IV and $\cot \theta = -\frac{2}{17}$. Find the exact values of the five remaining trigonometric functions of θ .

a. $\sin \theta = -\frac{2}{\sqrt{293}}, \cos \theta = \frac{17}{\sqrt{293}}, \csc \theta = -\frac{\sqrt{293}}{2}, \sec \theta = \frac{\sqrt{293}}{17}, \tan \theta = -\frac{17}{2}$

b. $\sin \theta = -\frac{17}{\sqrt{293}}, \cos \theta = \frac{2}{\sqrt{293}}, \csc \theta = -\frac{\sqrt{293}}{17}, \sec \theta = \frac{\sqrt{293}}{2}, \tan \theta = -\frac{17}{2}$

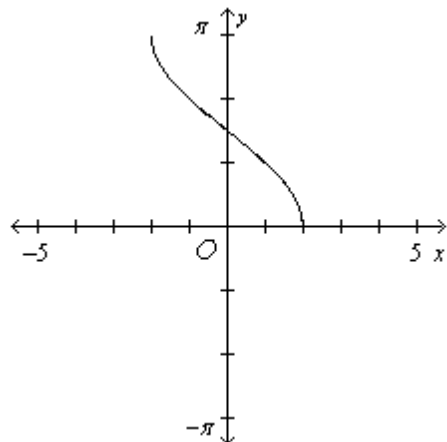
c. $\sin \theta = -\frac{17}{\sqrt{293}}, \cos \theta = \frac{2}{\sqrt{293}}, \csc \theta = -\frac{\sqrt{293}}{2}, \sec \theta = \frac{\sqrt{293}}{17}, \tan \theta = -\frac{17}{2}$

d. $\sin \theta = \frac{\sqrt{293}}{17}, \cos \theta = -\frac{\sqrt{293}}{2}, \csc \theta = \frac{17}{\sqrt{293}}, \sec \theta = -\frac{2}{\sqrt{293}}, \tan \theta = -\frac{2}{17}$

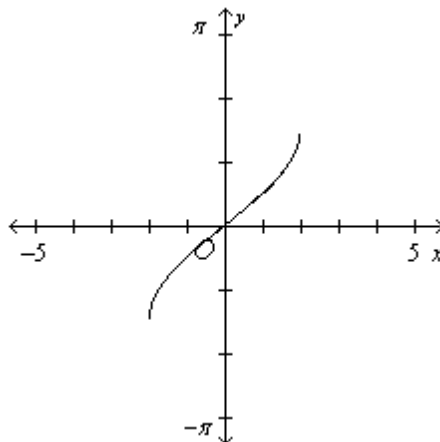
Precalculus G11-Ch4 H.W

9. Graph $y = \cos^{-1}\left(\frac{1}{2}x\right)$ on the interval $-5 \leq x \leq 5$.

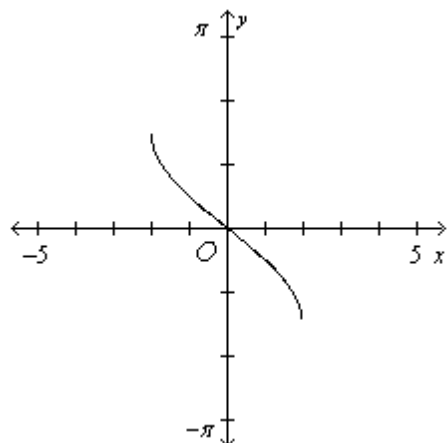
a.



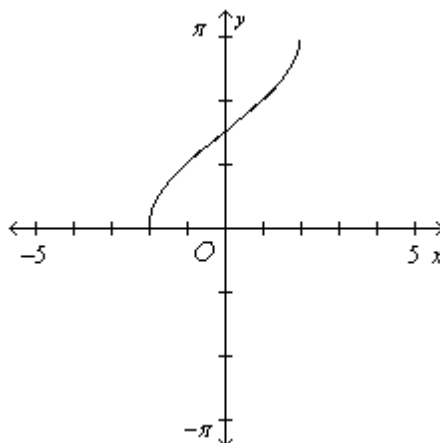
b.



c.



d.



10. Find the reference angle for 342° .

- a. 35° b. 5°
c. 18° d. 162°

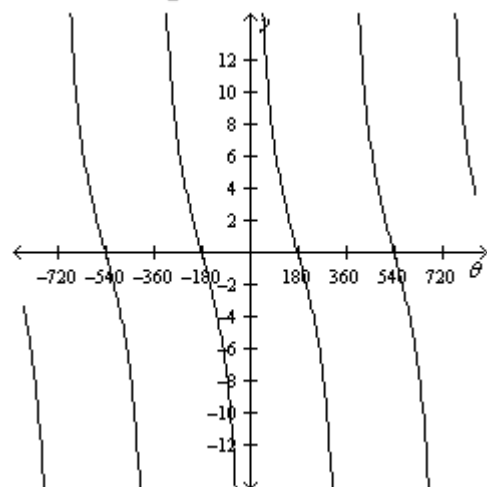
11. Find the exact value of $\csc(-1740)^\circ$.

- a. $\frac{1}{2}$ b. 2
c. $\frac{2}{\sqrt{3}}$ d. $\frac{1}{\sqrt{2}}$

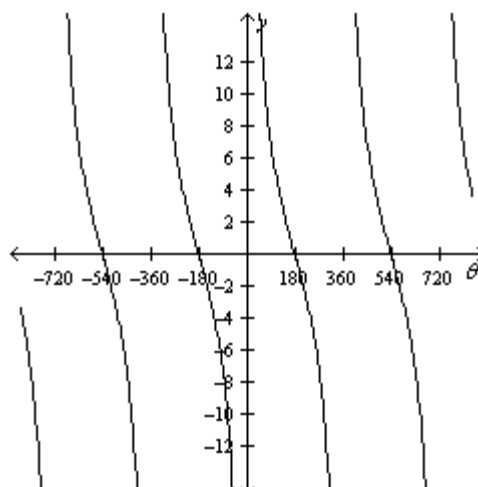
Precalculus G11-Ch4 H.W

12. Graph $y = 7 \cot \frac{1}{2} \theta$.

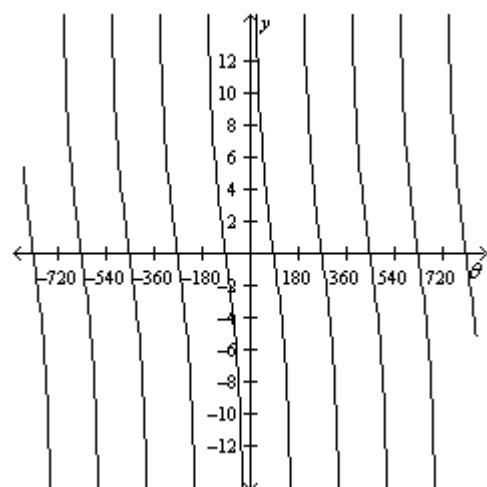
a.



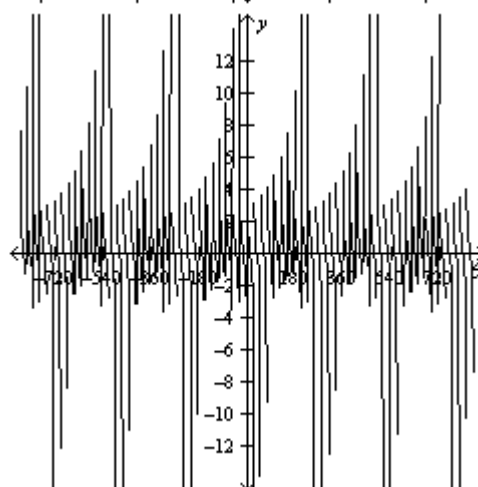
b.



c.



d.



13. Find the exact value of $\tan \frac{5\pi}{6}$.

a. $-\sqrt{3}$

b. $-\frac{\sqrt{3}}{3}$

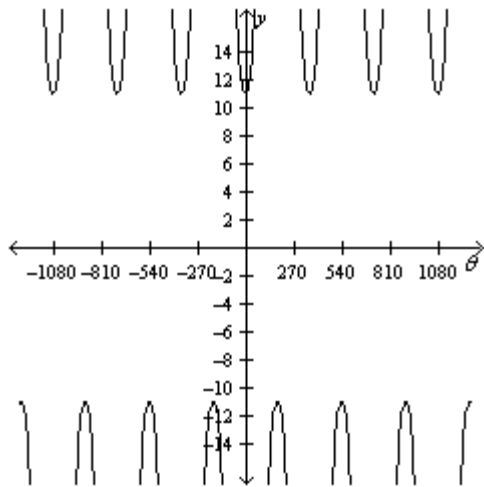
c. 1

d. undefined

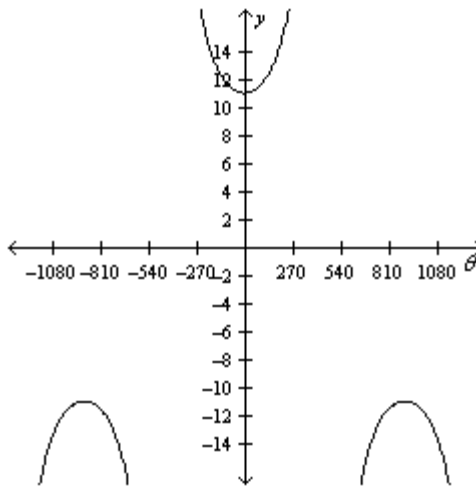
Precalculus G11-Ch4 H.W

14. Graph $y = 11 \sec \frac{1}{5} \theta$.

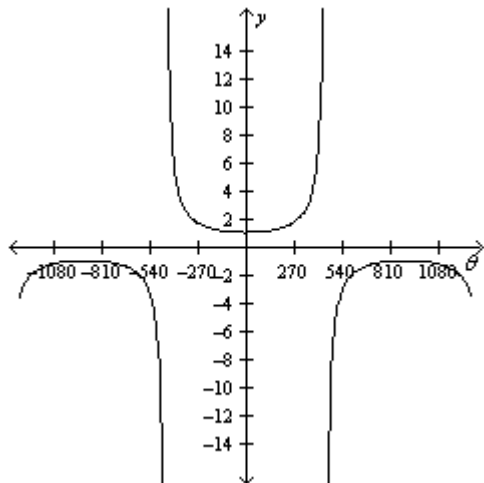
a.



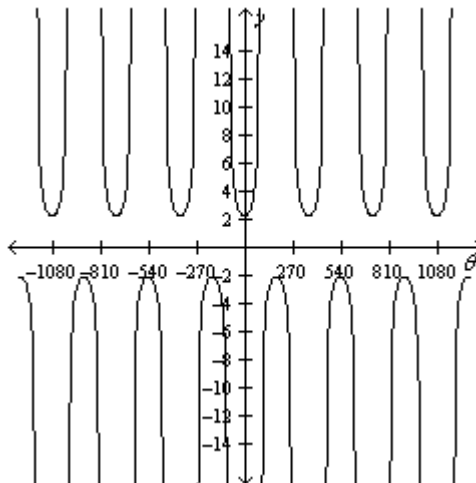
b.



c.



d.



15. Write an equation of the cosine function with the given amplitude, period, phase shift, and vertical shift.

amplitude: 2, period = π , phase shift = $-\frac{1}{8}\pi$, vertical shift = -2

a. $y = \pm 2 \cos \left(\frac{1}{2} \theta + \frac{1}{4} \pi \right) + 2$

b. $y = \pm 2 \cos \left(2\theta - \frac{1}{4} \pi \right) + 2$

c. $y = \pm 2 \cos \left(2\theta + \frac{1}{4} \pi \right) - 2$

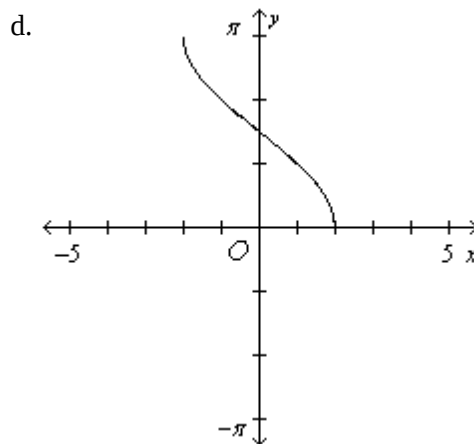
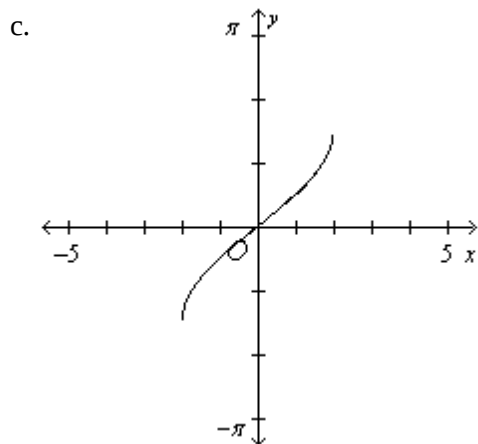
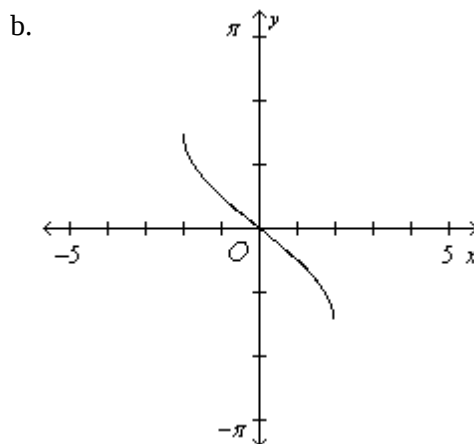
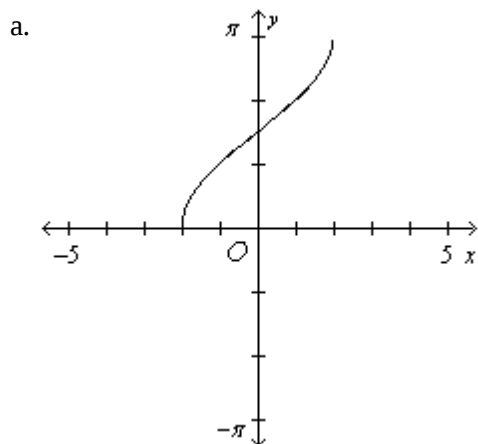
d. $y = \pm 2 \cos \left(\frac{1}{2} \theta - \frac{1}{4} \pi \right) - 2$

Precalculus G11-Ch4 H.W

16. Find the exact value of $\tan \frac{3\pi}{4}$.

- a. $-\frac{\sqrt{3}}{3}$ b. 1
c. -1 d. undefined

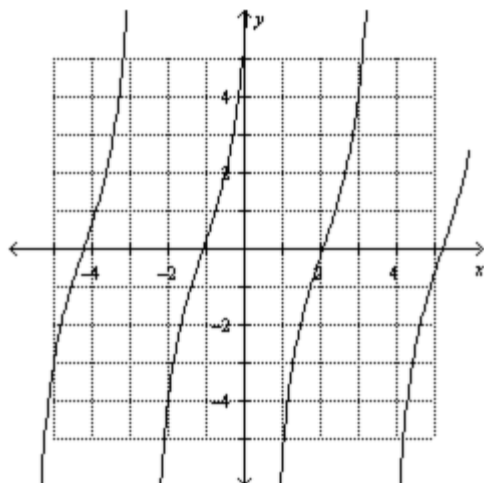
17. Graph $y = \sin^{-1}\left(\frac{1}{2}x\right)$ on the interval $-5 \leq x \leq 5$.



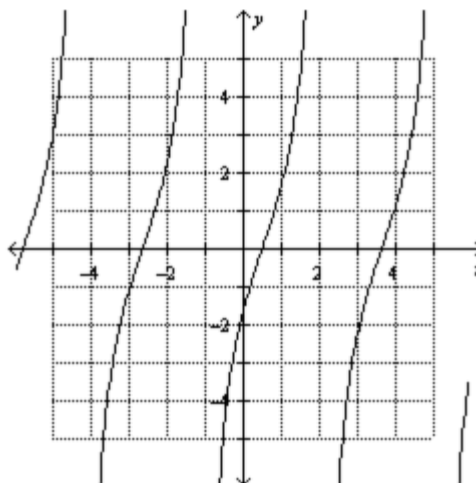
Precalculus G11-Ch4 H.W

18. Graph $y = 3 \cot \left(\theta - \frac{\pi}{6} \right)$

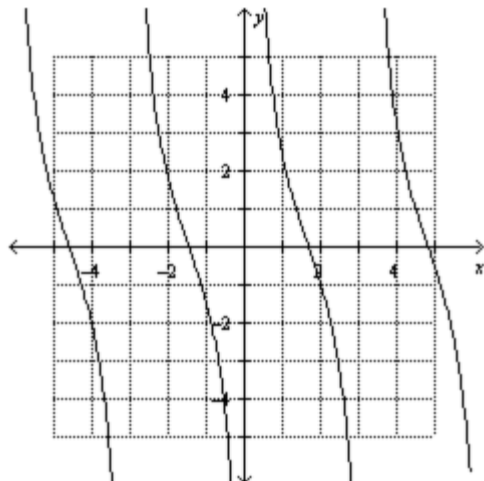
a.



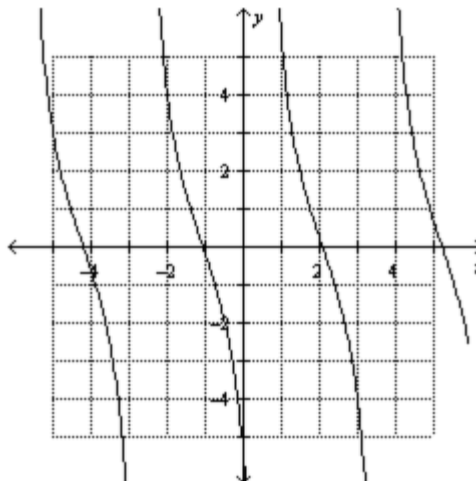
b.



c.



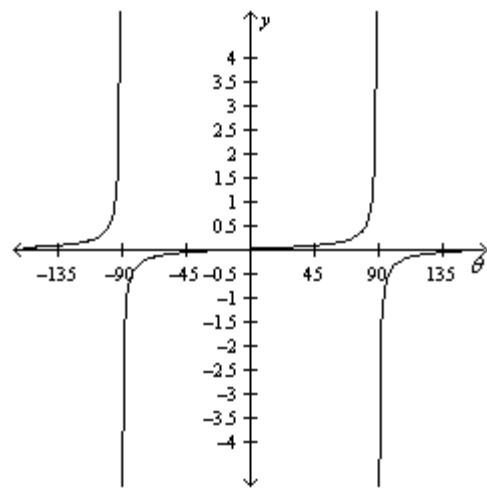
d.



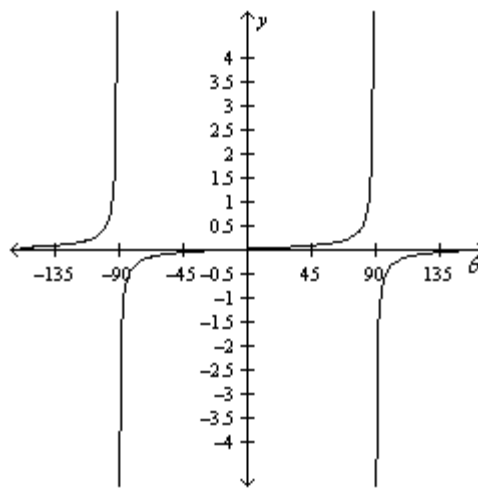
Precalculus G11-Ch4 H.W

19. Graph $y = \frac{1}{14} \tan \theta$.

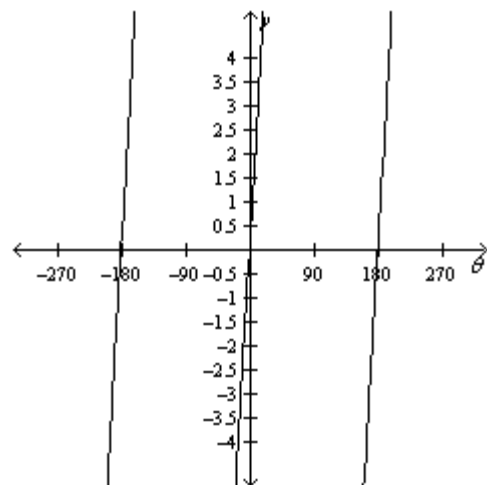
a.



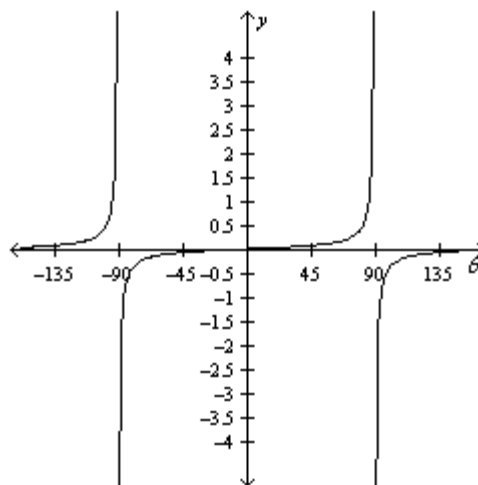
b.



c.



d.



20. Find the value of $\cot\left(\cos^{-1}\left(-\frac{1}{2}\right)\right)$.

a. $\frac{\sqrt{3}}{3}$

b. $-\sqrt{3}$

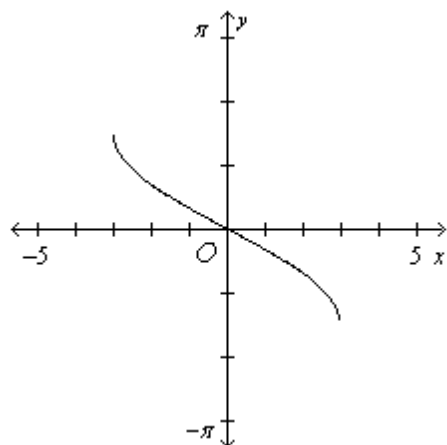
c. $-\frac{\sqrt{3}}{3}$

d. $\sqrt{3}$

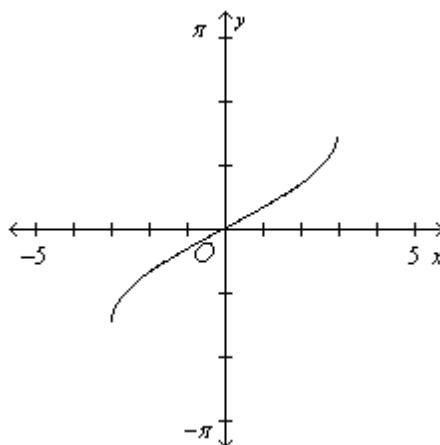
Precalculus G11-Ch4 H.W

21. Graph $y = \sin^{-1}\left(\frac{1}{3}x\right)$ on the interval $-5 \leq x \leq 5$.

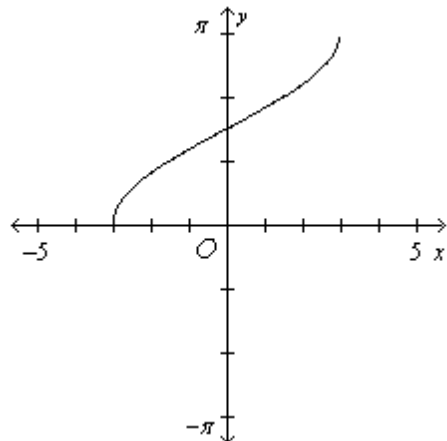
a.



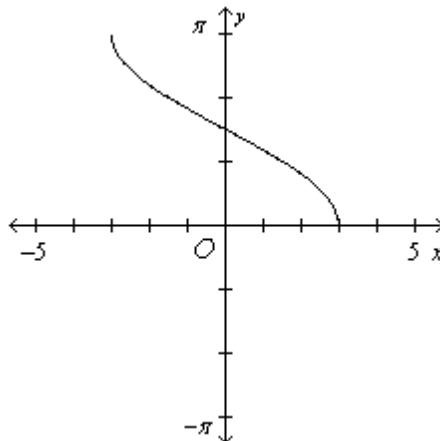
b.



c.



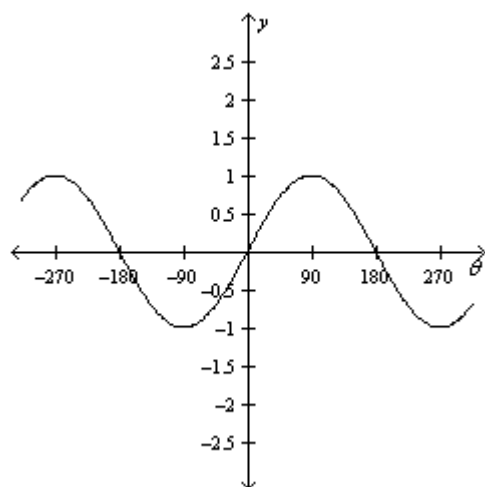
d.



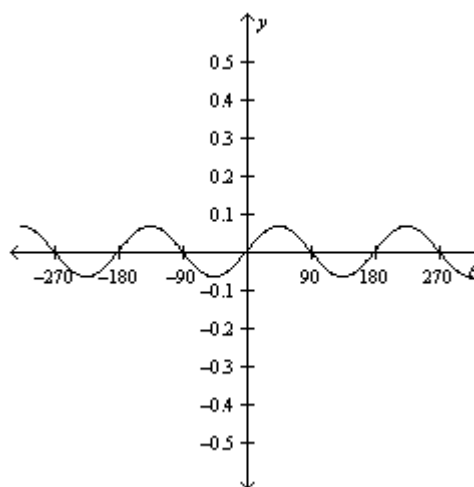
Precalculus G11-Ch4 H.W

22. Find the amplitude of $y = \frac{1}{15} \sin \theta$. Then graph the function.

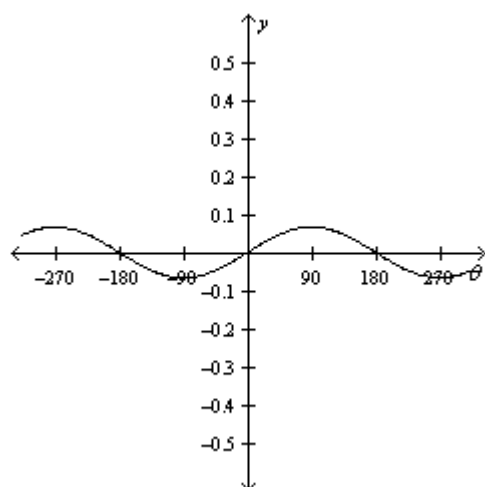
a. amplitude: $\frac{1}{15}$



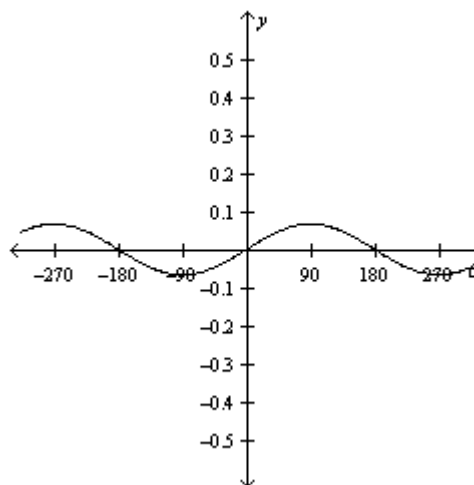
b. amplitude: $\frac{1}{15}$



c. amplitude: $\frac{1}{15}$



d. amplitude: does not exist



23. Write $\frac{\pi}{18}$ in degrees.

- a. 5° b. 100°
c. 10° d. $10\pi^\circ$

Precalculus G11-Ch4 H.W

24. Suppose θ is an angle in the standard position whose terminal side is in Quadrant IV and $\cot \theta = -\frac{7}{21}$. Find the exact values of the five remaining trigonometric functions of θ .

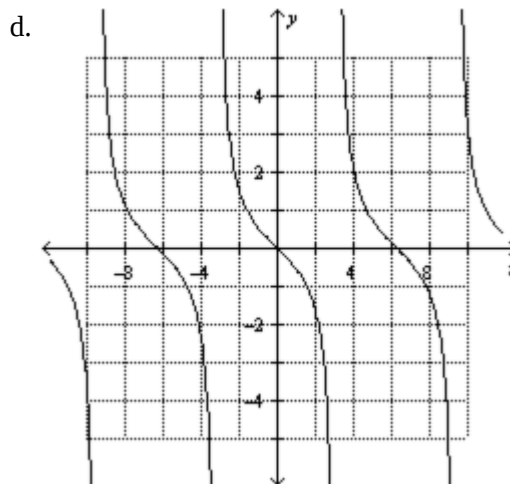
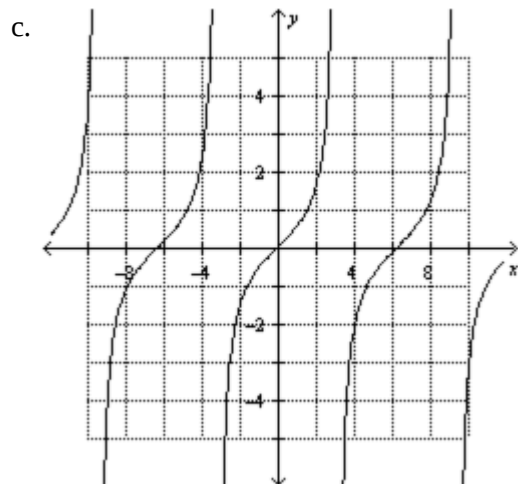
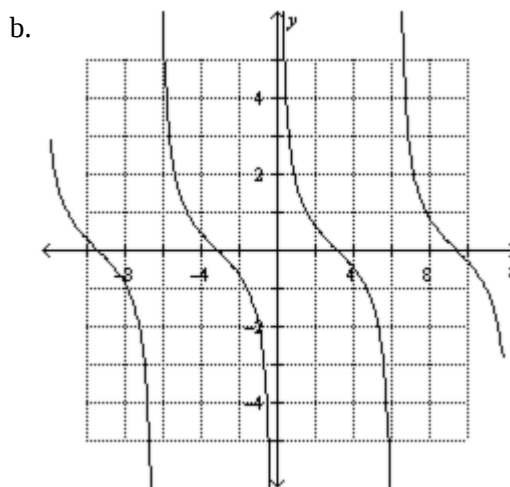
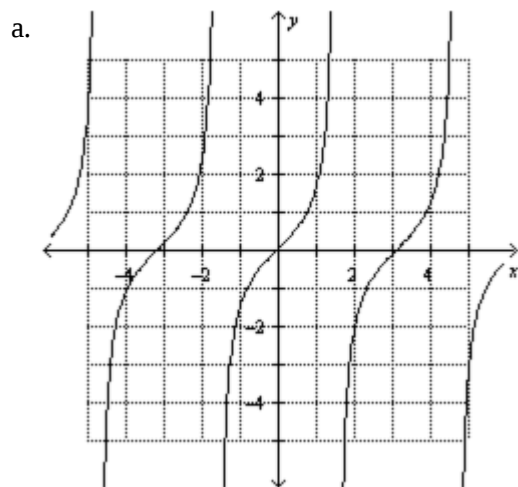
a. $\sin \theta = -\frac{7}{\sqrt{490}}, \cos \theta = \frac{21}{\sqrt{490}}, \csc \theta = -\frac{\sqrt{490}}{7}, \sec \theta = \frac{\sqrt{490}}{21}, \tan \theta = -\frac{21}{7}$

b. $\sin \theta = -\frac{21}{\sqrt{490}}, \cos \theta = \frac{7}{\sqrt{490}}, \csc \theta = -\frac{\sqrt{490}}{7}, \sec \theta = \frac{\sqrt{490}}{21}, \tan \theta = -\frac{21}{7}$

c. $\sin \theta = -\frac{21}{\sqrt{490}}, \cos \theta = \frac{7}{\sqrt{490}}, \csc \theta = -\frac{\sqrt{490}}{21}, \sec \theta = \frac{\sqrt{490}}{7}, \tan \theta = -\frac{21}{7}$

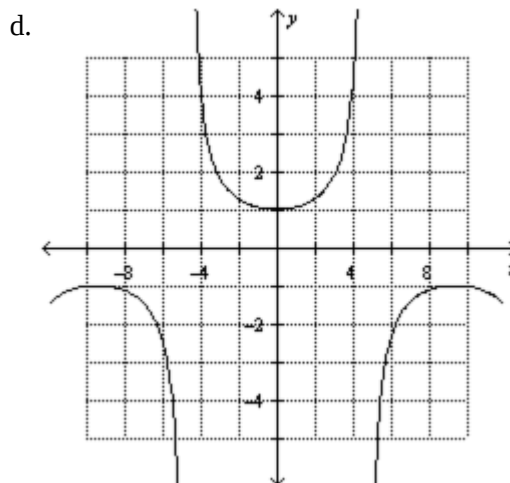
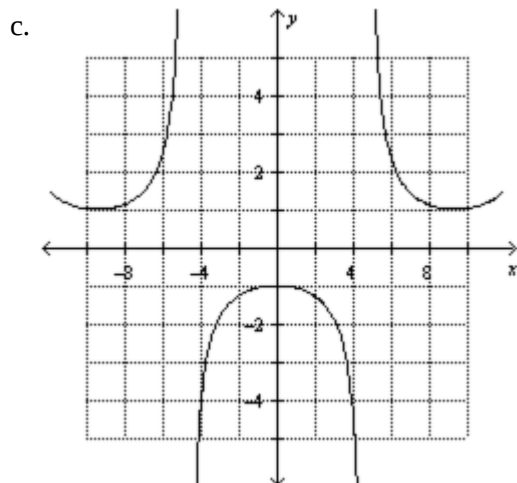
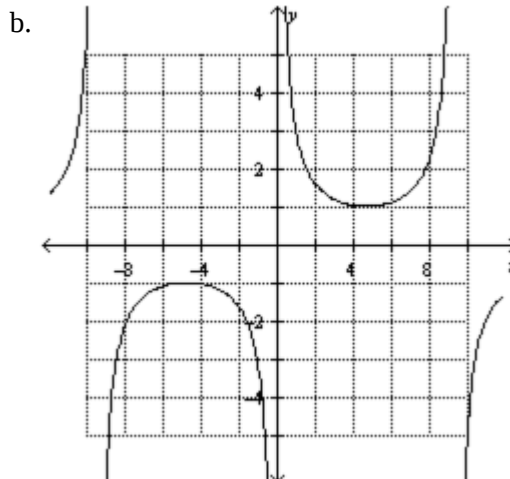
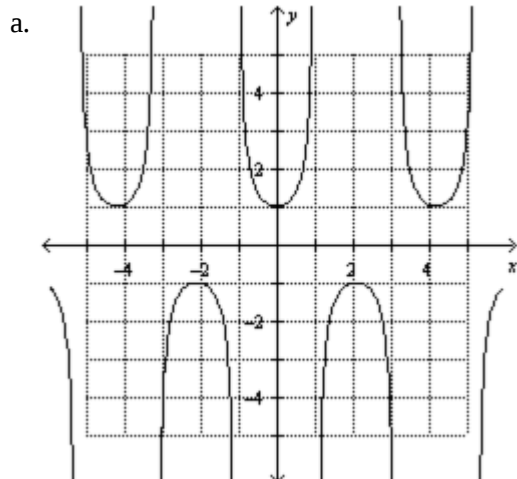
d. $\sin \theta = \frac{\sqrt{490}}{21}, \cos \theta = -\frac{\sqrt{490}}{7}, \csc \theta = \frac{21}{\sqrt{490}}, \sec \theta = -\frac{7}{\sqrt{490}}, \tan \theta = -\frac{7}{21}$

25. Graph $y = \tan\left(\frac{1}{2}\theta + \pi\right)$



Precalculus G11-Ch4 H.W

26. Graph $y = \sec\left(\frac{1}{3}\theta - 2\pi\right)$



Find the value of each expression using the given information.

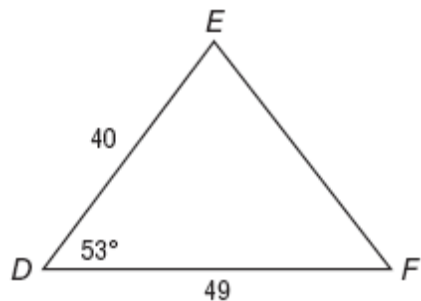
27. If $\cos \theta = 0.54$, find $\sin\left(\theta - \frac{\pi}{2}\right)$.

- a. -0.54
- b. 0.54
- c. $\frac{\pi}{2} - \theta$
- d. $-\sin \theta$

Precalculus G11-Ch4 H.W

Solve each triangle. Round to the nearest tenth if necessary.

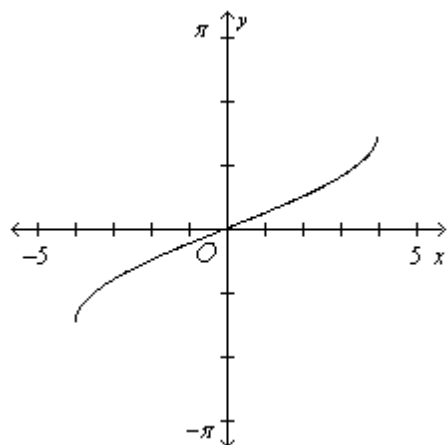
28.



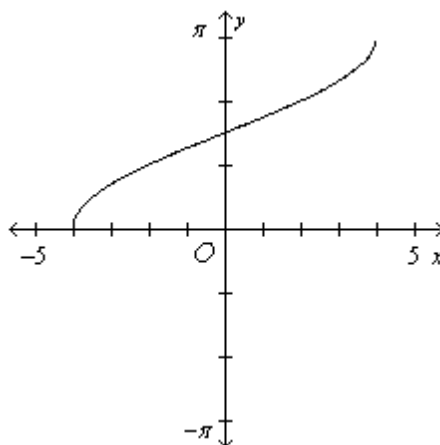
- a. $E \approx 48.0^\circ$, $F \approx 68.0^\circ$, $d \approx 23.4$
- b. $E \approx 52.0^\circ$, $F \approx 75.0^\circ$, $d \approx 40.5$
- c. $E \approx 75.0^\circ$, $F \approx 52.0^\circ$, $d \approx 40.5$
- d. $E \approx 125.0^\circ$, $F \approx 70.0^\circ$, $d \approx 28.3$

29. Graph $y = \sin^{-1}\left(-\frac{1}{4}x\right)$ on the interval $-5 \leq x \leq 5$.

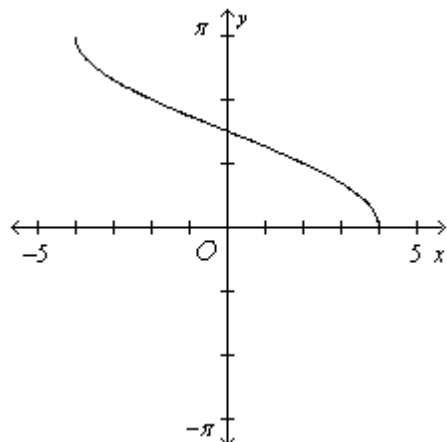
a.



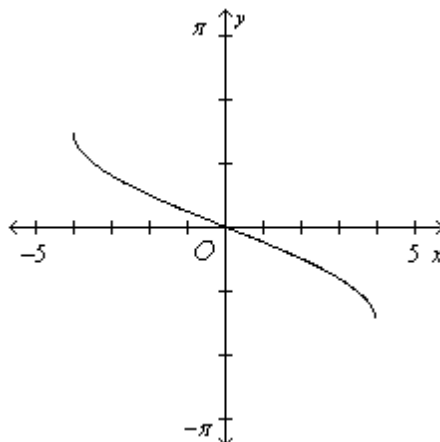
b.



c.



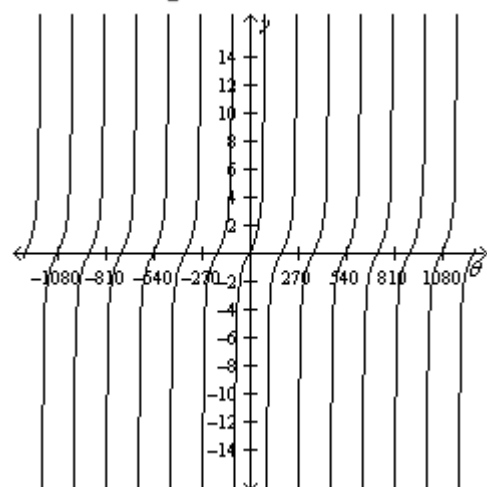
d.



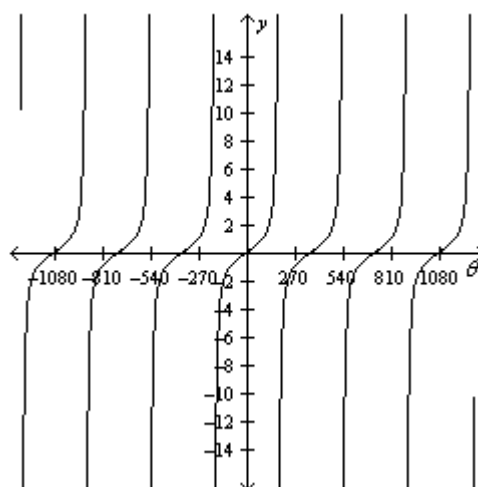
Precalculus G11-Ch4 H.W

30. Graph $y = 3 \tan \frac{1}{2} \theta$.

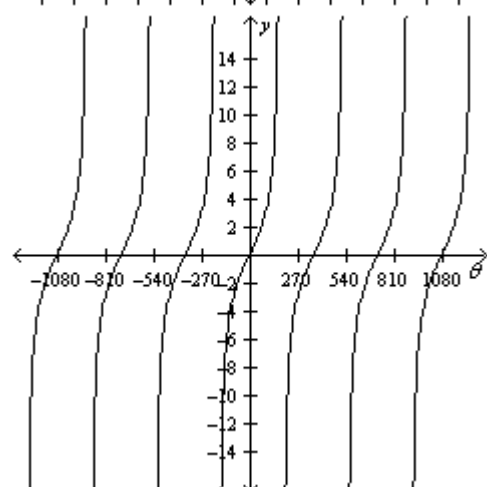
a.



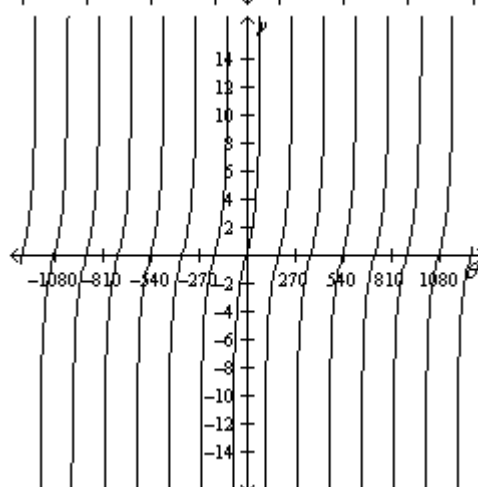
b.



c.



d.



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