

Math Analysis REVIEW 4.3-4.7 E

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

1. Suppose θ is an angle in the standard position whose terminal side is in Quadrant IV and $\cot \theta = -\frac{9}{18}$. Find the exact values of the five remaining trigonometric functions of θ .

a. $\sin \theta = \frac{\sqrt{405}}{18}$, $\cos \theta = -\frac{\sqrt{405}}{9}$, $\csc \theta = \frac{18}{\sqrt{405}}$, $\sec \theta = -\frac{9}{\sqrt{405}}$, $\tan \theta = -\frac{9}{18}$

b. $\sin \theta = -\frac{9}{\sqrt{405}}$, $\cos \theta = \frac{18}{\sqrt{405}}$, $\csc \theta = -\frac{\sqrt{405}}{9}$, $\sec \theta = \frac{\sqrt{405}}{18}$, $\tan \theta = -\frac{18}{9}$

c. $\sin \theta = -\frac{18}{\sqrt{405}}$, $\cos \theta = \frac{9}{\sqrt{405}}$, $\csc \theta = -\frac{\sqrt{405}}{18}$, $\sec \theta = \frac{\sqrt{405}}{9}$, $\tan \theta = -\frac{18}{9}$

d. $\sin \theta = -\frac{18}{\sqrt{405}}$, $\cos \theta = \frac{9}{\sqrt{405}}$, $\csc \theta = -\frac{\sqrt{405}}{9}$, $\sec \theta = \frac{\sqrt{405}}{18}$, $\tan \theta = -\frac{18}{9}$

2. Find the exact value of $\cos\left(\frac{9\pi}{4}\right)$.

a. 1 b. $\frac{\sqrt{2}}{2}$

c. $\frac{\sqrt{3}}{2}$ d. 0

3. Find the reference angle for 293° .

a. 84° b. 54°

c. 67° d. 113°

4. Find the exact value of $\cos\frac{11\pi}{6}$.

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

c. $\frac{\sqrt{3}}{2}$ d. undefined

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5. Find the amplitude, period, and phase shift of $f(x) = -2\sin(3x - 9)$.

a. amplitude = -2 , period = 2π , phase shift = -3

b. amplitude = 4 , period = $\frac{\pi}{3}$, phase shift = 3

c. amplitude = -2 , period = $\frac{2\pi}{3}$, phase shift = -3

d. amplitude = 2 , period = $\frac{2\pi}{3}$, phase shift = 3

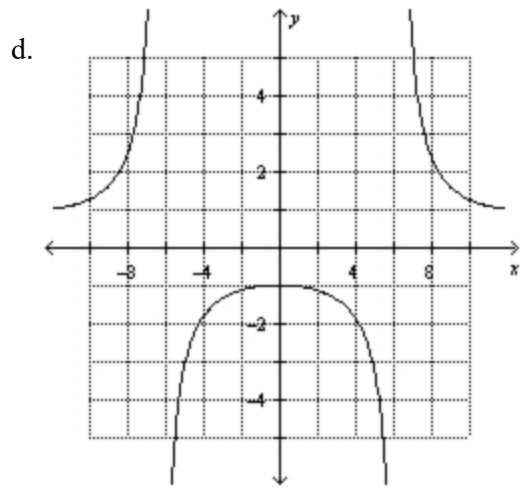
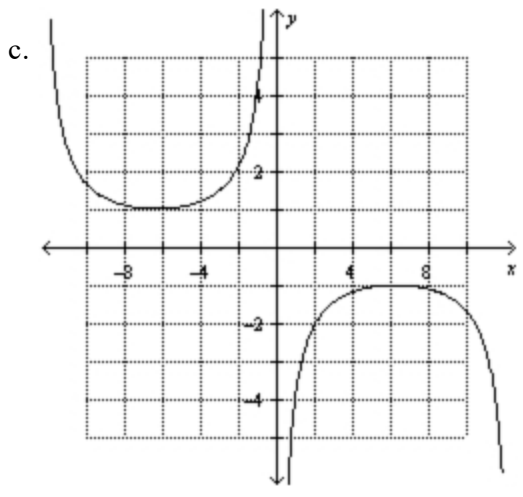
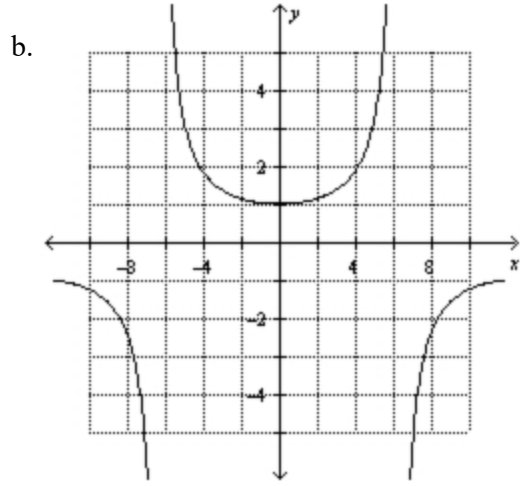
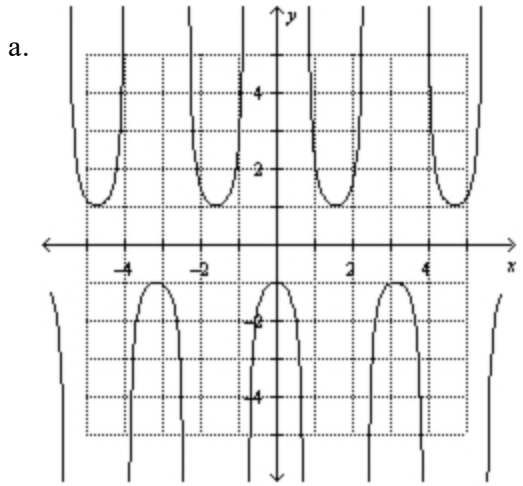
6. Write an equation of the cosine function with amplitude 3 and period 6π .

a. $y = -3 \cos\left(\frac{1}{6}x\right)$ b. $y = -\frac{1}{3} \cos\left(\frac{1}{3}x\right)$

c. $y = 3 \cos\left(\frac{1}{3}x\right)$ d. $y = \frac{1}{3} \cos\left(\frac{1}{6}x\right)$

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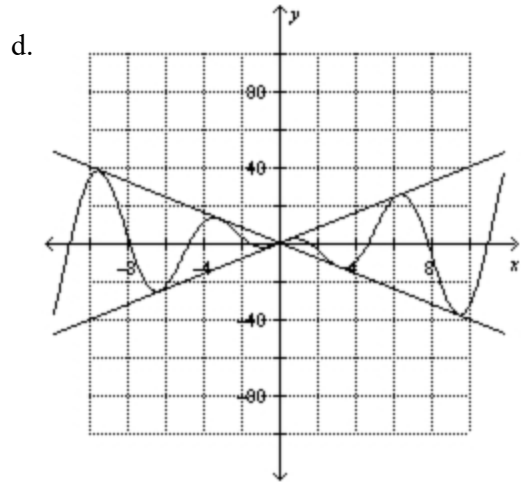
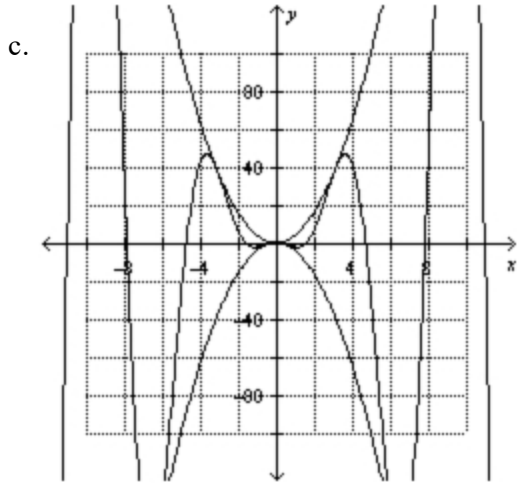
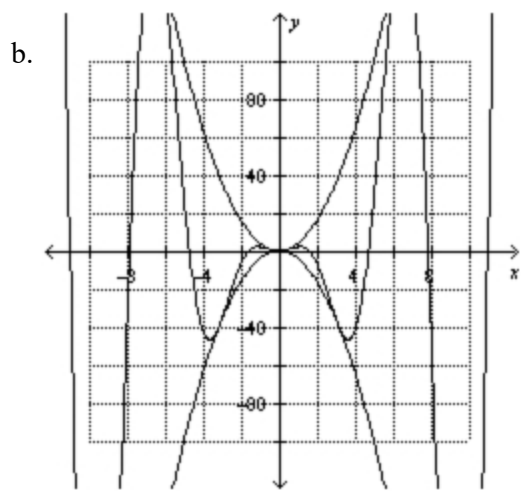
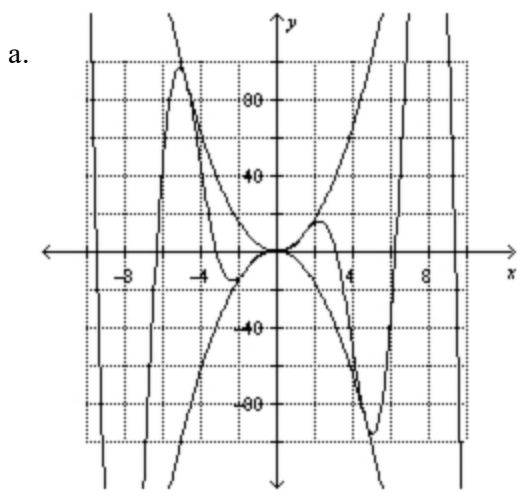
7. Graph $y = \sec\left(\frac{1}{4}\theta + \pi\right)$



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Graph $f(x)$, $-f(x)$, and the given function.

8. $y = 4x^2 \cos x$



9. Find the value of $\tan\left(\sin^{-1}\left(-\frac{1}{2}\right)\right)$.

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

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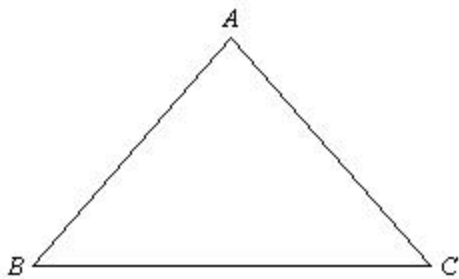
10. Given a triangle with $a = 3$, $A = 31^\circ$, and $B = 38^\circ$, what is the length of c ? Round to the nearest tenth.

- a. 6.4 b. 5.4
c. 4.4 d. 7.4

11. Given a triangle with $b = 5$, $c = 3$, and $A = 30^\circ$, what is the length of a ? Round to the nearest tenth.

- a. 2.2 b. 3.8
c. 2.8 d. 3.4

12. Solve $\triangle ABC$.



$c = 9, B = 50^\circ, C = 70^\circ$

- a. $A = 60^\circ, a = 9, b = 7.3$ b. $A = 60^\circ, a = 7.3, b = 8.3$
c. $A = 60^\circ, a = 8.3, b = 7.3$ d. $A = 60^\circ, a = 65.1, b = 7.3$

13. Find the area of the triangle with $a = 9$ feet, $b = 3$ feet, and $c = 10$ feet. Round to the nearest tenth.

- a. 10.3 ft^2 b. 13.3 ft^2
c. 15.3 ft^2 d. 14.3 ft^2

14. Find the value of $\text{Cos}^{-1}\left(-\frac{\sqrt{3}}{2}\right)$.