Final Exam: Chapter 6 Review

Score: 0/14 Answered: 0/14

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Questions

Question 1

0/1 pt 3 99

Given the equation $y = 3\sin\left(\frac{5\pi}{4}x + \frac{25\pi}{4}\right) + 4$

The amplitude is: [ ] 3

The period is: [ ] 1.6

The horizontal shift is: [ ] 5 units to the [Select an answer] Left

The midline is: y = [ ] 4

Question Help: Video

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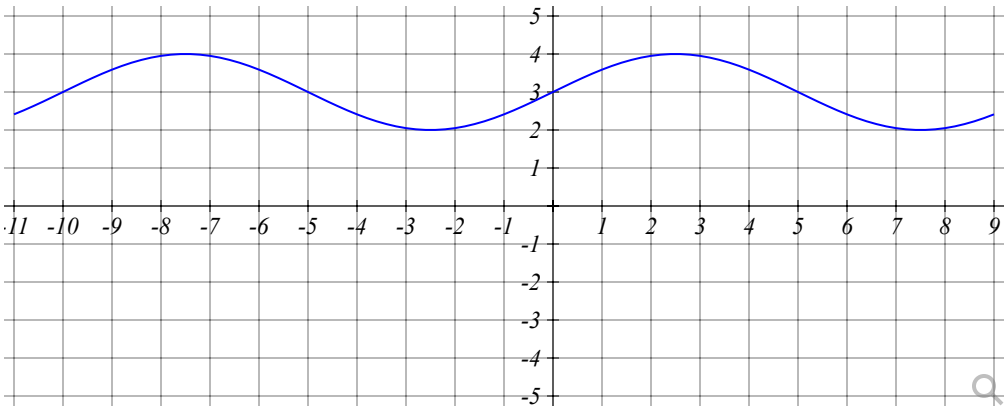
Question 2

0/1 pt 3 99

Find a function of the form $y = A\sin(kx) + C$ or $y = A\cos(kx) + C$ whose graph matches the function shown below:



Leave your answer in exact form; if necessary, type pi for π.

$y =$ [ ] $y = \sin\left(\frac{\pi}{5}x\right) + 3$

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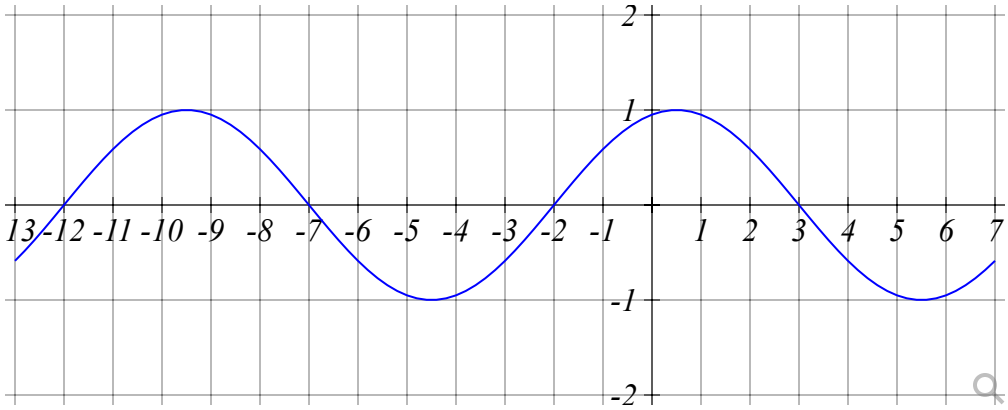
Question 3

0/1 pt 3 99



The curve above is the graph of a sinusoidal function. It goes through the points $(-7, 0)$ and $(3, 0)$. Find a sinusoidal function that matches the given graph. If needed, you can enter π=3.1416... as 'pi' in your answer, otherwise use at least 3 decimal digits.

$f(x) =$

$-1 \cdot \sin\left(\left(\frac{\pi}{5}\right) \cdot (x - 3)\right)$

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Question 4

0/1 pt 3 99

A ferris wheel is 30 meters in diameter and boarded from a platform that is 5 meters above the ground. The six o'clock position on the ferris wheel is level with the loading platform. The wheel completes 1 full revolution in 4 minutes. The function $h = f(t)$ gives your height in meters above the ground t minutes after the wheel begins to turn. Write an equation for $h = f(t)$.

$f(t) =$

$-15 \cdot \cos\left(\frac{\pi}{2} \cdot t\right) + 20$

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Question 5

0/1 pt 3 99

Match each graph with its equation. Not all equations will be used.

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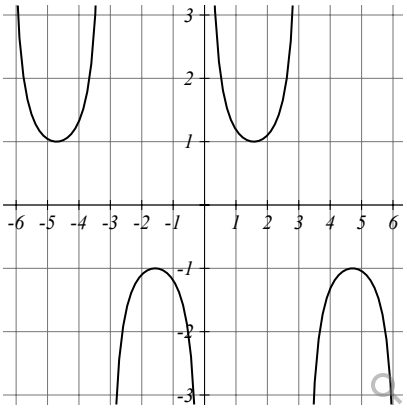

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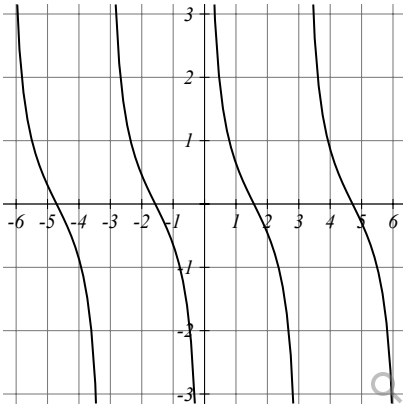

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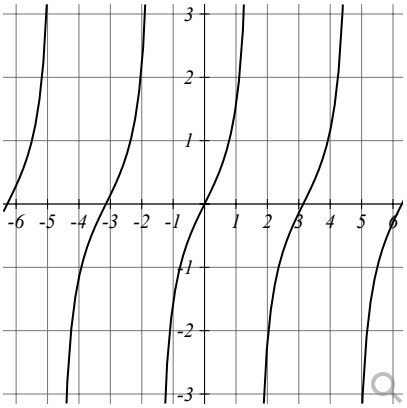

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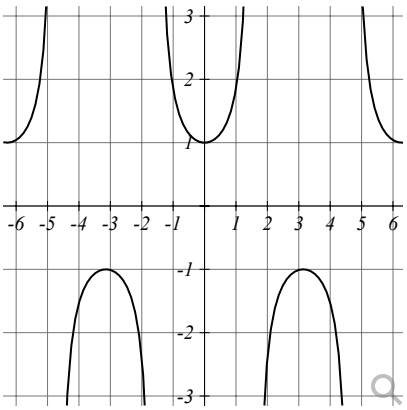

y = csc(x)
y = cot(x)
y = tan(x)
y = sec(x)

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Question 6 0/1 pt 3 99

Given the equation $y = 6\csc\left(\frac{4\pi}{3}x - \frac{32\pi}{3}\right)$

The period is: 1.5

The horizontal shift is: 8 units to the Select an answer

Right

Question Help: Video

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Question 7 0/1 pt 3 99

Find all solutions to $2\sin(\theta) = -1$ on the interval $0 \le \theta < 2\pi$

$\theta =$ $\frac{7\pi}{6}, \frac{11\pi}{6}$

Give your answers as exact values, as a list separated by commas.

Submit Question

Question 8 0/1 pt 3 99

Find all solutions to $2\cos(\theta) = \sqrt{2}$ on the interval $0 \le \theta < 2\pi$

$\theta =$ $\frac{\pi}{4}, \frac{7\pi}{4}$

Give your answers as exact values, as a list separated by commas.

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Question 9 0/1 pt 3 99

Solve $\cos(x) = 0.29$ on $0 \leq x < 2\pi$

There are two solutions, A and B, with A < B

A = 1.2765694890459

B = 5.0066158181337

Give your answers accurate to 3 decimal places

Submit Question

Question 10 0/1 pt 3 99

Solve $\sin(x) = -0.84$ on $0 \leq x < 2\pi$

There are two solutions, A and B, with A < B

A = 4.1388758759616

B = 5.2859020848078

Give your answers accurate to 3 decimal places

Submit Question

Question 11 0/1 pt 3 99

Solve $5\sin(5x) = 3$ for the two smallest positive solutions A and B, with A < B

A = 0.12870022175866

B = 0.4996183089593

Give your answers accurate to at least two decimal places.

Submit Question

Question 12 0/1 pt 3 99

Solve $7\cos(5x) = 3$ for the smallest positive solution.

Give your answer accurate to at least two decimal places.

0.22557705654435

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Question 13

0/1 pt 3 99

Outside temperature over a day can be modeled as a sinusoidal function. Suppose you know the high temperature for the day is 84 degrees and the low temperature of 46 degrees occurs at 6 AM. Assuming t is the number of hours since midnight, find an equation for the temperature, *D*, in terms of t.

$D(t) =$ $65 - 19 \cdot \cos\left(\frac{\pi}{12} \cdot (t-6)\right)$

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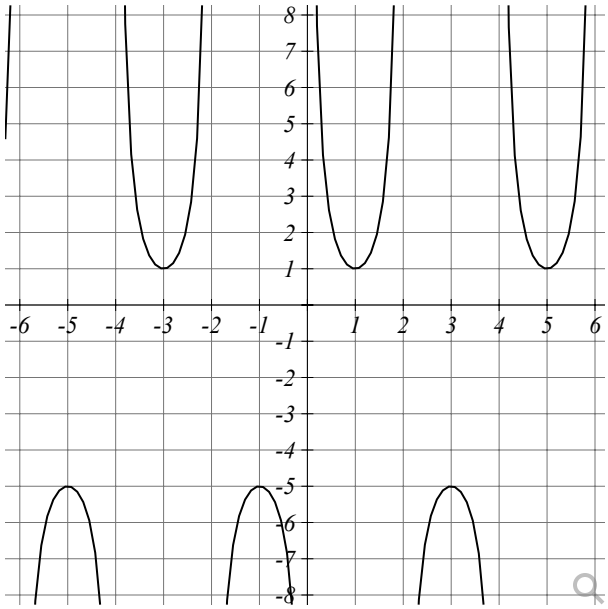
Question 14

0/1 pt 3 99



Write an equation for the graph above.

$f(x) =$ $3 \cdot \csc\left(\frac{2 \cdot \pi}{4} \cdot x\right) - 2$

Question Help: Video

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