

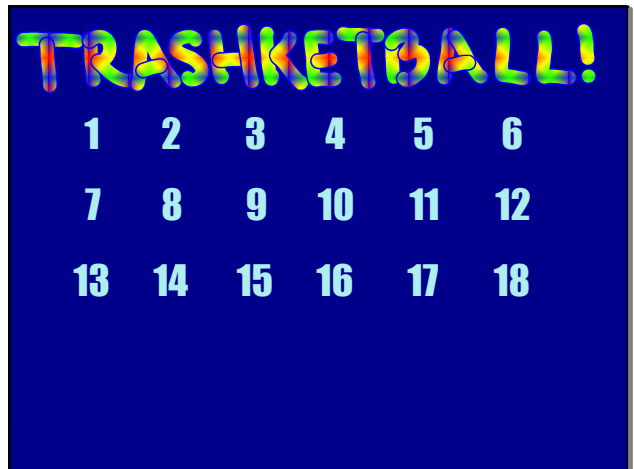
Problems to Review

pg 294 17, 21

pg 327 13, 17, 33, 53

pg 337 17, 33, 37, 39, 60

Be able to graph a sinusoidal and write the equation.



Sep 24-8:56 AM

GameBoard

#1: Use the given value and the specified domain to find $\cos(x)$ and $\cot(x)$: Home

$\sin(x) = \frac{5}{13}, \frac{\pi}{2} \leq x \leq \pi$

$5^2 + b^2 = 13^2$
 $25 + b^2 = 169$
 $b^2 = 144$
 $b = 12$

$\cos x = -\frac{12}{13}, \cot x = -\frac{12}{5}$

Answer

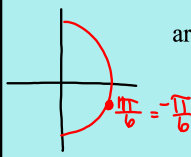
#7: Evaluate $\csc \theta$; state your answer in exact form. Home

$4^2 + 7^2 = c^2$
 $16 + 49 = c^2$
 $\sqrt{65} = c$

$\csc \theta = \frac{\sqrt{65}}{4}$

Answer

#13: Evaluate Home



$\arctan(\tan(\frac{11\pi}{6}))$

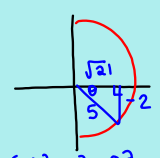
$-\frac{\pi}{6}$

$\frac{\pi}{6}$

Answer

13

#2: Evaluate Home



$\cos(\arcsin(-\frac{2}{5}))$

$(-2)^2 + b^2 = 5^2$
 $4 + b^2 = 25$
 $b^2 = 21$
 $b = \sqrt{21}$

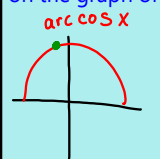
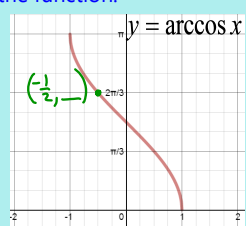
$\cos \theta = \frac{\sqrt{21}}{5}$

Answer

2

#8: Determine the missing coordinate of the point on the graph of the function. Home

$\arccos x$

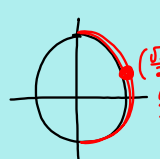
$(-\frac{1}{2}, \frac{\sqrt{3}}{2})$ is $\frac{2\pi}{3}$

$(-\frac{1}{2}, \frac{2\pi}{3})$

Answer

8

#14: Evaluate Home



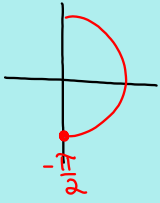
$\arcsin(\frac{1}{2})$

$\frac{\pi}{6}$

Answer

14

#3: Evaluate Home



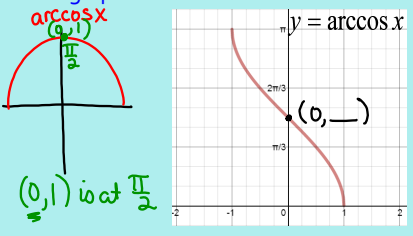
$\arcsin(\sin(-\frac{5\pi}{2}))$

$-\pi/2$

Answer

3

#9: Determine the missing coordinate of the points on the graph of the function. Home



$y = \arccos x$

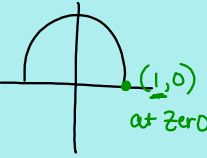
$(0, \frac{\pi}{2})$

$(0, -)$

Answer

9

#15: Evaluate Home



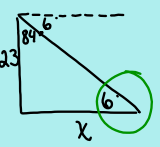
$\arccos(1)$

0

Answer

15

#4: A lighthouse keeper observes a 6° angle of depression between horizontal and his line of sight of the ship. If the keeper is 23 meters above the water, how far is the ship from the shore? Home



MODE Degree

23 meters

$x \cdot \tan 6^\circ = \frac{23}{x} \cdot x$

$\frac{x \cdot \tan 6^\circ}{\tan 6^\circ} = \frac{23}{\tan 6^\circ}$

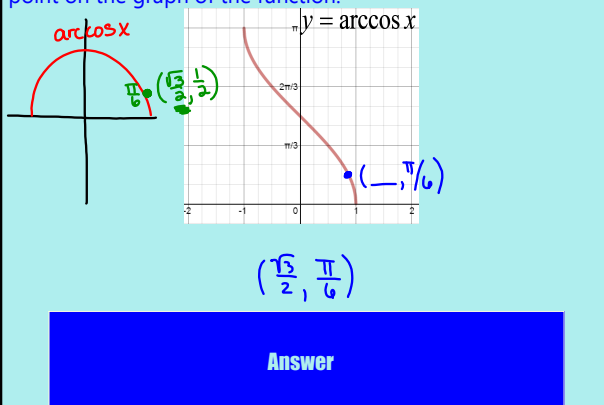
$x = 218.83 \text{ m}$

Answer

4

#10: Determine the missing coordinate of the point on the graph of the function.

Home



$y = \arccos x$

$(\frac{\sqrt{3}}{2}, \frac{\pi}{6})$

$(-1, \frac{\pi}{6})$

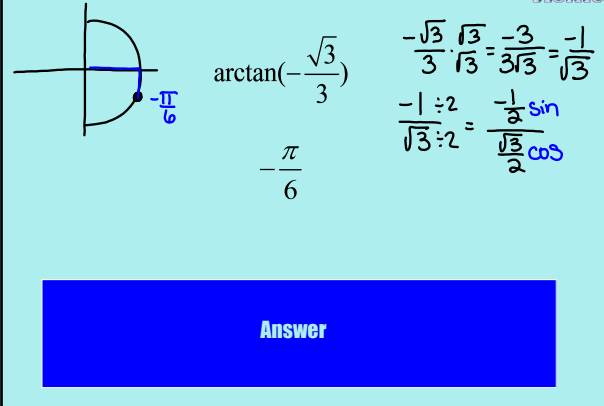
$(\frac{\sqrt{3}}{2}, \frac{\pi}{6})$

Answer

10

#16: Evaluate

Home



$\arctan(-\frac{\sqrt{3}}{3})$

$-\frac{\pi}{6}$

$-\frac{\sqrt{3}}{3} \cdot \frac{1}{\sqrt{3}} = \frac{-3}{3\sqrt{3}} = \frac{-1}{\sqrt{3}}$

$\frac{-1}{\sqrt{3}} \div 2 = \frac{-1}{2\sqrt{3}} \sin$

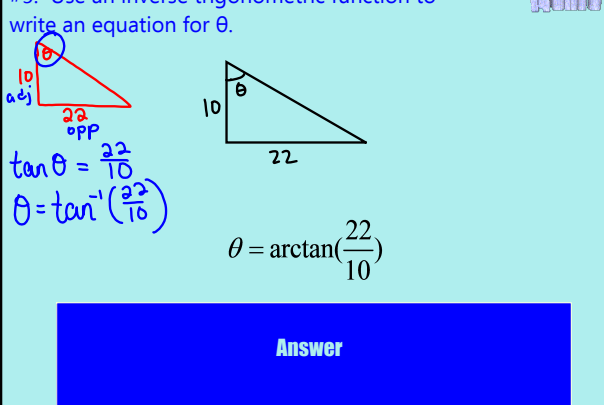
$\frac{-1}{\sqrt{3}} \div 2 = \frac{-1}{2\sqrt{3}} \cos$

Answer

16

#5: Use an inverse trigonometric function to write an equation for θ .

Home



$\tan \theta = \frac{22}{10}$

$\theta = \tan^{-1}(\frac{22}{10})$

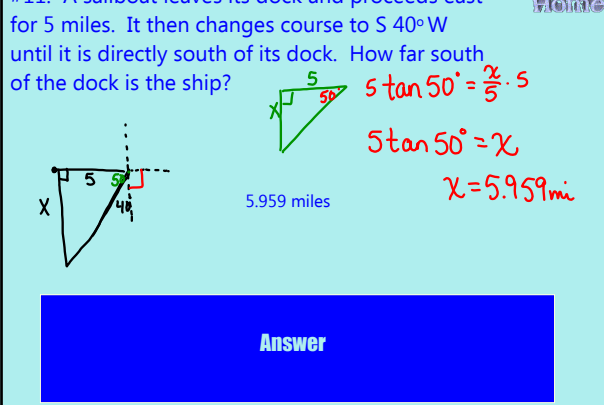
$\theta = \arctan(\frac{22}{10})$

Answer

5

#11: A sailboat leaves its dock and proceeds east for 5 miles. It then changes course to S 40° W until it is directly south of its dock. How far south of the dock is the ship?

Home



$5 \tan 50^\circ = \frac{x}{5}$

$5 \tan 50^\circ = x$

$x = 5.959 \text{ mi}$

5.959 miles

Answer

11

#17: Evaluate Home

① $(\frac{\sqrt{3}}{2}, -\frac{1}{2})$ $\arcsin(\cos(-\frac{\pi}{6}))$

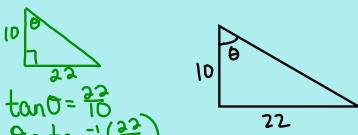
② $(\frac{1}{2}, \frac{\sqrt{3}}{2})$ $\arcsin(\frac{\sqrt{3}}{2})$

$\frac{\pi}{3}$

Answer

17

#6: Solve for θ , stating your answer in degrees to the nearest minute. Home



$\tan \theta = \frac{22}{10}$

$\theta = \tan^{-1}(\frac{22}{10})$

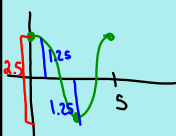
$\theta = 65.56^\circ$

2nd Apps DMS $\rightarrow 65^\circ 33'$

Answer

6

#12: A buoy oscillates in simple harmonic motion as waves go past. At a given time it is noted that the buoy moves a total of 2.5 feet from its low point to its high point and that it returns to its high point every 5 seconds. Write an equation that describes the motion of the buoy if its high point is at $t = 0$. Home



$a = 1.25$ or $\frac{5}{4}$

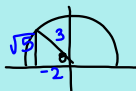
period $\frac{2\pi}{b} = 5$ $\frac{2\pi}{5} = b$

$d = \frac{5}{4} \cos(\frac{2\pi}{5}t)$

Answer

12

#18: Find the exact value of the expression. Home



$\sin(\arccos(-2/3))$

$\sin \theta = \frac{\sqrt{5}}{3}$

$(-2)^2 + b^2 = 3^2$

$4 + b^2 = 9$

$b^2 = 5$

$b = \sqrt{5}$

Answer

18

Attachments

JEOPARDY.mp3