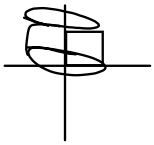
Calendar Math

Pg. 9

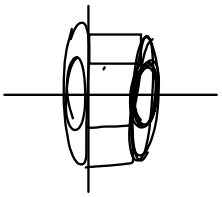
Sketch the result of each shape rotating around the given axis



Around the y-axis

right cylinder

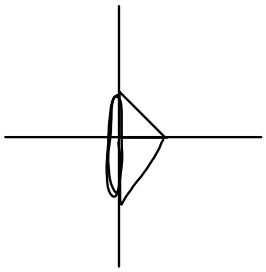
Feb 3-8:39 AM



Around the x-axis

right cylinder w/ a hole

Feb 3-8:43 AM

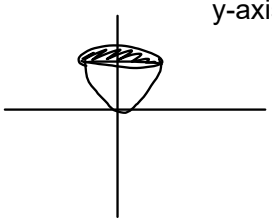


Around the x-axis

cone

Feb 3-8:39 AM

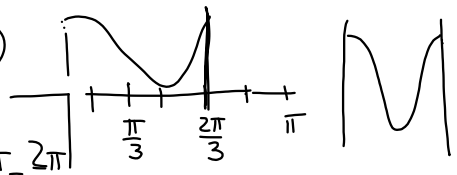
Around the y-axis



bowl w/ lid

Feb 3-8:44 AM

(18)



$\frac{2\pi}{3} = \frac{2\pi}{b}$

$\frac{2\pi b}{2\pi} = \frac{6\pi}{2\pi}$

$b = 3$

$f(x) = a\cos bx + k$

$f(x) = 2\cos(3x)$

Feb 3-10:01 AM

(17) $\frac{2\pi}{b} = 8$ $\frac{2\pi}{8} = \frac{8b}{8}$ $b = \frac{\pi}{4}$

$k = 1$

$a = 4$

$f(x) = 4\cos(\frac{\pi}{4}x) + 1$

Feb 3-10:06 AM

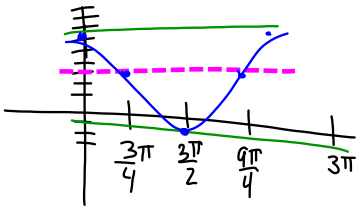
(10) $f(x) = 4\cos\left(\frac{2}{3}x\right)+3$

$a = 4$

$K = 3$

period $= \frac{2\pi}{\frac{2}{3}} \cdot \frac{3}{2}$ $\frac{6\pi}{2}$ 3π

Feb 3-10:09 AM



Feb 3-10:11 AM

7.2 Graphing Sine and Cosine-Phase Shift

Phase shift: A horizontal shift on a trig function

f(x)=asin[b(x-h)]+k

− right
+ left

h is the number of units the graph is shifted horizontally

Feb 3-8:39 AM

Identify the amplitude, period, phase shift, and vertical shift, then sketch one period of the graph.

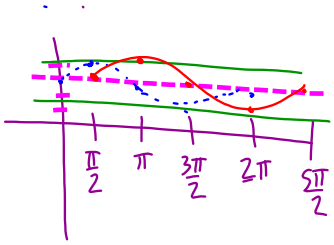
$f(x) = \sin\left(x - \frac{\pi}{2}\right)+3$

a= 1

p= b 2π

ps= h right $\frac{\pi}{2}$

vs= k midline 3



Jan 19-6:32 AM

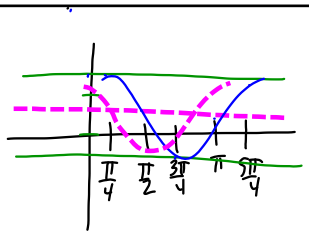
$f(x) = 2\cos\left(2\left(x - \frac{\pi}{4}\right)\right)+1$

a= 2

p= $\frac{2\pi}{2}$ π

ps= right $\frac{\pi}{4}$

vs= 1



Jan 19-6:37 AM

$2x - \frac{\pi}{2} = 0$

$+\frac{\pi}{2}$ $\frac{\pi}{2}$

$\frac{2x}{2} = \frac{\pi}{2} \cdot \frac{1}{2}$

$x = \frac{\pi}{4}$

Feb 3-10:25 AM

$f(x) = -\cos\left(\frac{1}{3}x + \pi\right) - 2$

$\frac{1}{3}x + \pi = 0$ $\frac{1}{3}(x + 3\pi)$

$-\pi \quad -\pi$

$3 \cdot \frac{1}{3}x = -\pi \cdot 3$

$x = -3\pi$

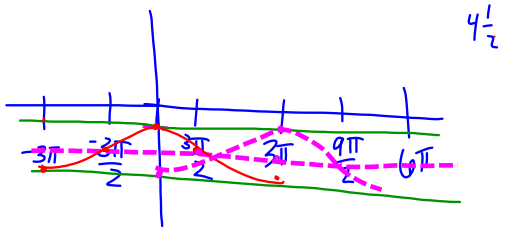
a= 1

p= 6π $\frac{2\pi \cdot 3}{\frac{1}{3}}$

ps= left 3π

vs= -2

Jan 19-6:38 AM



Feb 3-10:32 AM

In Salt Lake City, Utah, at the spring equinox (March 20, 2013) there were 12 hours and 9 minutes of daylight. The longest day (June 20, 2013) and shortest day (December 21, 2013) of the year vary from the equinox by approximately 3 hours. Write a sine function that relates the number of days to the variation of daylight hours in Salt Lake City.

$f(x) = a\sin bx + k$

$a = 3$

$b = \frac{2\pi}{365}$ $\frac{2\pi}{b} = 365$

$k = 12 + \frac{9}{60}$

12.15

changes 3 hrs

a

12.15

$f(x) = 3\sin\left(\frac{2\pi}{365}x\right) + 12.15$

Jan 19-6:40 AM

The Ferris wheel at Lagoon has a diameter of 21.8 meters. It rotates on a platform that is 3 meters above the ground. The Ferris wheel completes one revolution in 40 seconds. Write an equation to model the situation.

$a = 10.9$

$k = 13.9$

$b = \frac{\pi}{20}$

24.8

21.8

3

$10.9 + 3$

13.9

$\frac{2\pi}{b} = 40$

$b\frac{40}{40} = \frac{2\pi}{40}$ $\frac{\pi}{20}$

Jan 19-6:43 AM

When you get on ferris wheel you are at the low reflection

$f(x) = -10.9\cos\left(\frac{\pi}{20}x\right) + 13.9$

Feb 3-10:47 AM

Act #4

J 8

Feb 3-10:50 AM

(6) $\underset{1st}{5} \cdot \underset{2nd}{4} \cdot \underset{3rd}{3}$

Feb 3-10:53 AM

(12) flour = Sugar = Salt X

$\frac{1}{3}X + \frac{1}{2}X + \frac{1}{4}X = 52$

Feb 3-10:54 AM

(9) 1st # $X = \frac{P-6}{3}$

2nd # $X+2$

greatest 3rd # $X+4$

$\frac{P-6}{3} + \frac{4}{1}$

$X+X+2+X+4 = P$

$3X+6 = P$

$-6 \quad -6$

$X = \frac{P-6}{3}$

Feb 3-10:58 AM