

Test Review:

Change degrees to radians and radians to degrees: (exact answers simplest form) Name the quadrant or axis that the terminal side is in.

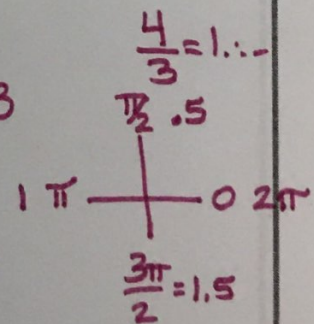
- |                                 |   |                |                      |
|---------------------------------|---|----------------|----------------------|
| a) $-620 \cdot \frac{\pi}{180}$ | b) $\frac{5\pi}{9} \cdot \frac{180}{\pi}$ | c) $540^\circ$ | d) $\frac{29\pi}{6}$ |
| • $-\frac{31\pi}{9}$            | • $100^\circ$                             | • $3\pi$       | • $870^\circ$        |
| • Q2                            | • Q2                                      | • x-axis       | • Q2                 |

Find one positive and one negative coterminal angle:

- |  |   |  |
|--|---|--|
| a) $-135^\circ \pm 360^\circ$<br>$225^\circ, -495^\circ$ | b) $\frac{7\pi}{4} \pm 2\pi$<br>$\begin{matrix} \nearrow \frac{15\pi}{4} \\ \searrow -\frac{\pi}{4} \end{matrix}$ | $\frac{18\pi}{4} \begin{matrix} \nearrow +2 = \frac{13\pi}{2} \\ \searrow -2 = -\frac{3\pi}{2} \end{matrix}$ |
|--|---|--|

Given an angle in standard position, what quadrant would the terminal side lie?

- |                          |                       |                           |
|--------------------------|-----------------------|---------------------------|
| a) $720^\circ$<br>x-axis | b) $-125^\circ$<br>Q3 | c) $\frac{4\pi}{3}$<br>Q3 |
|--------------------------|-----------------------|---------------------------|





Sketch the following angles:

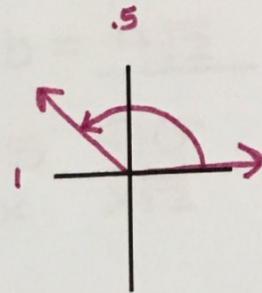
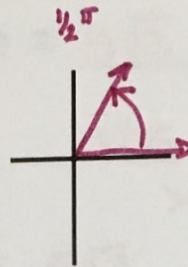
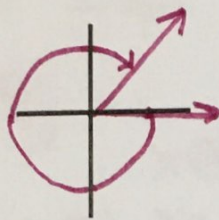
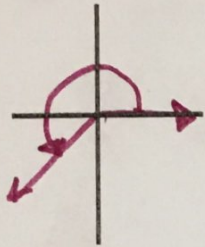
a)  $210^\circ$

b)  $-315^\circ$

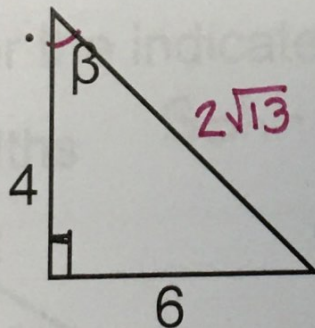
c)  $\pi/6$

d)  $3\pi/4$

.75



Given:



find the six trig ratios for  $\angle \beta$ ,

$$\begin{aligned} 4^2 + 6^2 &= h^2 \\ 52 &= h^2 \\ \sqrt{52} &= 2\sqrt{13} \end{aligned}$$

exact answers in simplest form. (rationalize)

$$\sin \beta = \frac{6}{2\sqrt{13}} = \frac{3}{\sqrt{13}} = \frac{3\sqrt{13}}{13}$$

$$\csc \beta = \frac{\sqrt{13}}{3}$$

$$\cos \beta = \frac{4}{2\sqrt{13}} = \frac{2}{\sqrt{13}} = \frac{2\sqrt{13}}{13}$$

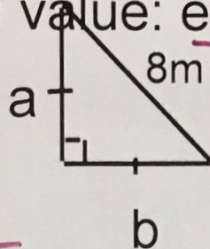
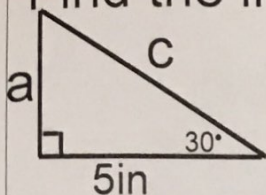
$$\sec \beta = \frac{\sqrt{13}}{2}$$

$$\tan \beta = \frac{6}{4} = \frac{3}{2}$$

$$\cot \beta = \frac{2}{3}$$



Find the indicated value: exact answers



$a = \frac{5\sqrt{3}}{3}$      $c = \frac{10\sqrt{3}}{3}$

$a = 4\sqrt{2}$      $b = 4\sqrt{2}$

30° 60° 90°  
 x x√3 2x  
 ↓  
 $\frac{5\sqrt{3}}{3}$

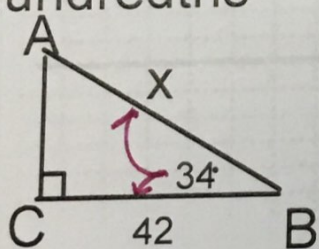
$x\sqrt{3} = 5$   
 $x = \frac{5 \cdot \sqrt{3}}{\sqrt{3} \cdot \sqrt{3}} = \frac{5\sqrt{3}}{3}$

45° 45° 90°  
 x x x√2

$x\sqrt{2} = 8$   
 $x = \frac{8 \cdot \sqrt{2}}{\sqrt{2} \cdot \sqrt{2}} = 4\sqrt{2}$

Solve for the indicated value: round to nearest hundredths

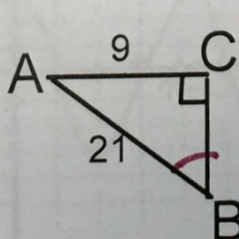
*Soh-Cah-Toa*



$\cos 34^\circ = \frac{42}{x}$

$x \cos 34^\circ = 42$

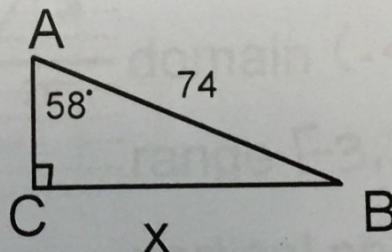
$x = \frac{42}{\cos 34^\circ} = 50.66$



$\angle B =$

$\sin B = \frac{9}{21}$

$\angle B = \sin^{-1}\left(\frac{9}{21}\right) = 25.38^\circ$



$\sin 58^\circ = \frac{x}{74}$

$74 \sin 58^\circ = x$   
 62.76



complete the chart:

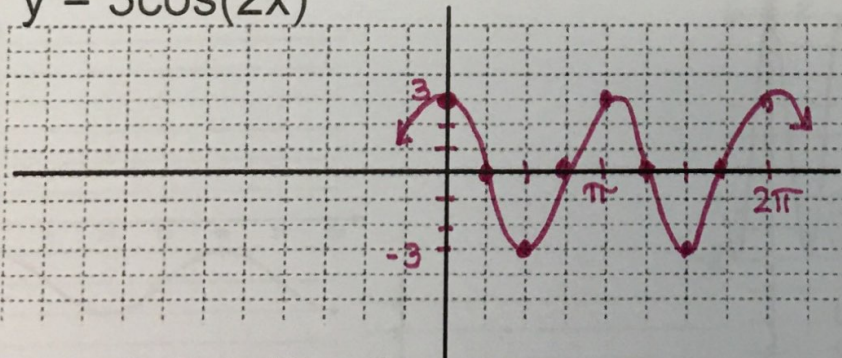
Deg	Rad	(x,y)	Quad	Sin $\theta$	Cos $\theta$	Tan $\theta$	Csc $\theta$	Sec $\theta$	Cot $\theta$
315	$\frac{7\pi}{4}$	$(\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})$	Q4	$-\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{-\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = -1$	$-\sqrt{2}$	$\sqrt{2}$	$-1$
120	$2\pi/3$	$(-\frac{1}{2}, \frac{\sqrt{3}}{2})$	Q2	$\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$\frac{\frac{\sqrt{3}}{2}}{-\frac{1}{2}} = -\sqrt{3}$	$\frac{2\sqrt{3}}{3}$	$-2$	$-\frac{\sqrt{3}}{3}$

$$\frac{2\sqrt{2}}{\sqrt{2}\sqrt{2}} = \frac{2\sqrt{2}}{2}$$

+

$\frac{S}{T} = \frac{O}{A}$   
C  
A

$y = 3\cos(2x)$



amplitude 3

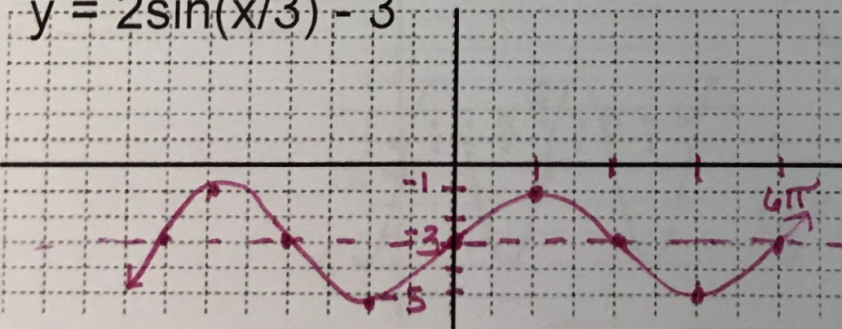
period  $\pi$

domain  $(-\infty, \infty)$

range  $[-3, 3]$

vertical shift none

$y = 2\sin(x/3) - 3$



$a = 3$

$pd = 6\pi$

$d: (-\infty, \infty)$

V.S down 3

Range  $[-5, -1]$



Write the trig function:

sin function, period  $6\pi$ , range:  $[-2, 6]$

$$y = a \sin(bx) + d$$

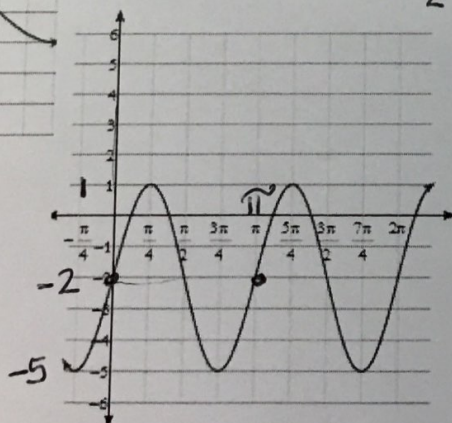
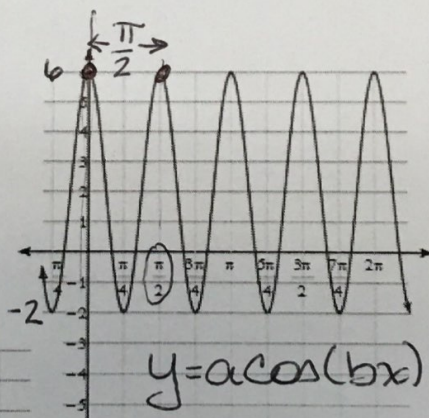
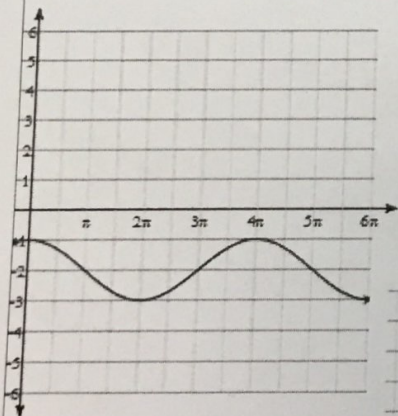
$$y = 4 \sin\left(\frac{x}{3}\right) + 2$$

cos function, period  $2\pi/5$ , max value  $-2$ ,  
min value  $-12$

$$y = a \cos(bx) + d$$

$$y = 5 \cos(5x) - 7$$

Write the equation:



$$y = a \cos(bx) + d$$

$$y = 4 \cos(4x) + 2$$

$$y = 3 \sin(2x) - 2$$

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

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

Use the unit circle to find the exact value:

$$+35^\circ$$

a)  $\sin 3\pi/4$

$$\frac{\sqrt{2}}{2}$$

b.)  $\tan 630$

undef

c)  $\cos 13\pi/6$

$$\frac{\sqrt{3}}{2}$$