$3.7\cos(4.8x - 11.2) - 14.7$

Round all calculations to one decimal place

midline: $y = -14.7$

$A = 3.7$

$-14.7 - 3.7 = -18.4$ Low $= -18.4$

$-14.7 + 3.7 = -11.0$ HIGH

$bx = 2\pi$

$4.8x = 2\pi$

$x = \frac{2\pi}{4.8} = T \approx 1.3$

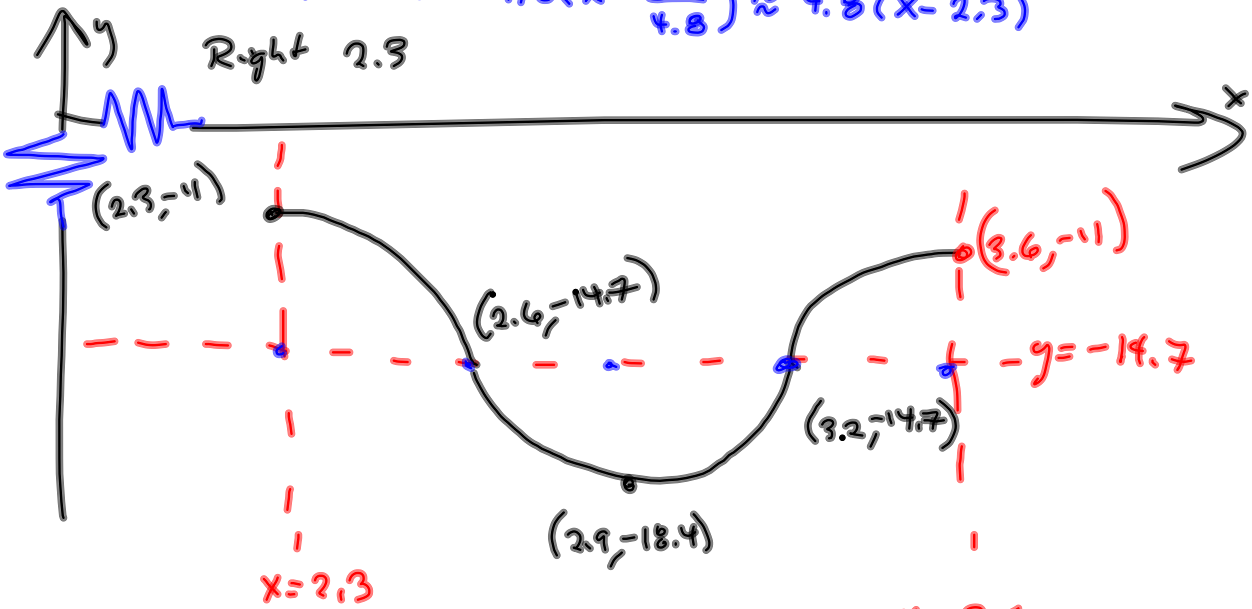
tan/cot

$bx = \pi$

$\frac{1.3}{4} = .325 \approx .3 = \frac{1}{4}$ of a period.

Shift: $4.8x - 11.2 = 4.8\left(x - \frac{11.2}{4.8}\right) \approx 4.8(x - 2.3)$

Right 2.3



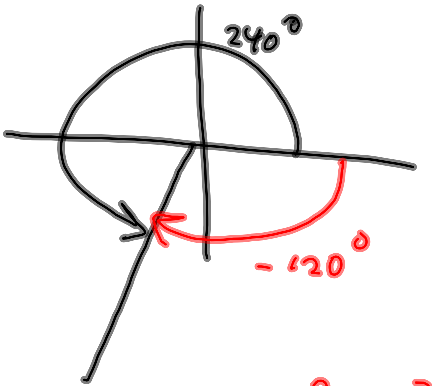
Some discrepancy between 3.2 & 3.6 because we rounded .325 to .3.

$2.3 + 1.3$

Find 2 angles coterminal with $\theta = \frac{34\pi}{3}$. Give exact answers, one neg., one pos.

$-2\pi < x < 2\pi$ $\quad (-360^\circ < x < 360^\circ)$

$$\frac{34\cancel{\pi}}{\cancel{3}} \cdot \frac{\overset{60}{\cancel{180}}}{\cancel{\pi}} = 2040$$



$$\frac{2040}{360} = 5.\overline{6}$$

$$5 \times 360 = 1800$$

$$\begin{array}{r} 2040 \\ -\ 1800 \\ \hline +240 \end{array}$$

$$(240)\left(\frac{\pi}{180}\right) = \frac{4\pi}{3}$$

$$(-120)\left(\frac{\pi}{180}\right) = -\frac{2\pi}{3}$$

$x = -120^\circ, 240^\circ$ OR

$x = \frac{4\pi}{3}, -\frac{2\pi}{3}$

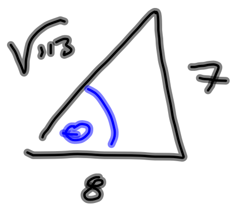
240 is 2040 mod 360

modulo

= 240 is the remainder when 2040 is divided by 360.

Remainders are huge in higher algebra.

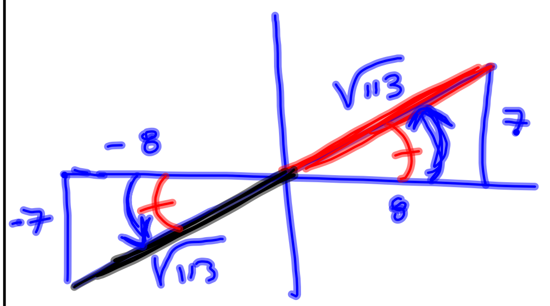
Assume θ is in 1^{st} quadrant and $\tan\theta = \frac{7}{8}$. Find the values of the other 5 trig funcs.



$\sin\theta = \frac{7}{\sqrt{113}}$

$\cos\theta = \frac{8}{\sqrt{113}}$

Assume θ is any angle between 0 & 2π. Draw the two pictures.



Find both solutions for θ. Round to 4 places.

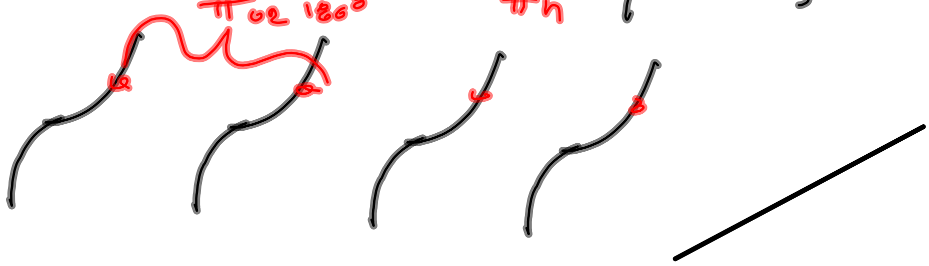
41.1859°

221.1859°

Find ALL solutions to $\tan\theta = \frac{7}{8}$ Rounded to 4 places.

$$\theta \in \{\, \theta \approx 41.1859^\circ + 180^\circ n \mid n \in \mathbb{Z} \,\}$$

π or 180° $\qquad$ πn



Feb 28-8:37 AM

$$\sin\left(\arcsin\left(-\tfrac{2}{3}\right)\right) = -\tfrac{2}{3}$$

$$\arcsin\left(\sin\left(150^\circ\right)\right) = \arcsin\left(\tfrac{1}{2}\right) = 30^\circ$$