

S1.3 #s 1-5, 7-37, 41-51, 57-65, 67?, 73, 75

Due Monday

S1.2 questions?

#s 31, 41-45,

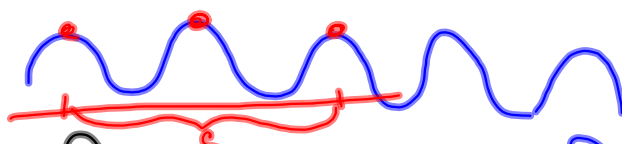
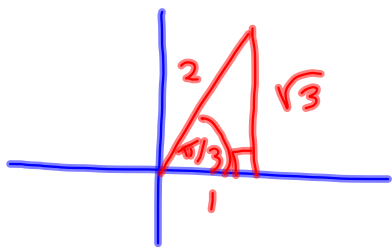
Use period as an aid.

$$\sin(4\pi) = \sin(2 \cdot 2\pi) = \sin(0) = 0$$



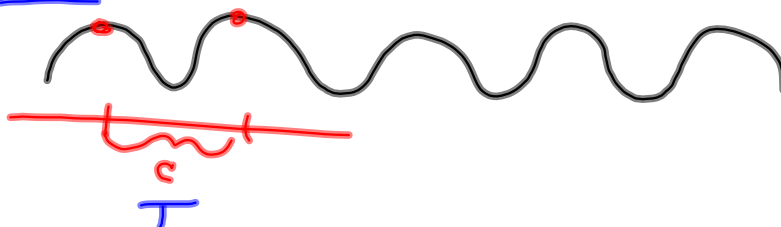
$$\cos\left(\frac{7\pi}{3}\right) = \cos\left(\frac{6\pi}{3} + \frac{\pi}{3}\right) = \cos\left(2\pi + \frac{\pi}{3}\right)$$

$$= \cos\left(\frac{\pi}{3}\right) = \frac{1}{2}$$



A function is periodic if there is a $c \in \mathbb{R}$ such that $f(t+c) = f(t)$

The smallest c such that $f(t+c) = f(t)$ is the period. (commonly use 'T')



In general, you can always do this with radians:

$\frac{\theta}{2\pi}$ gives you how many times around the circle. The remainder will give you an angle between 0 & 2π , and that angle is coterminal with θ

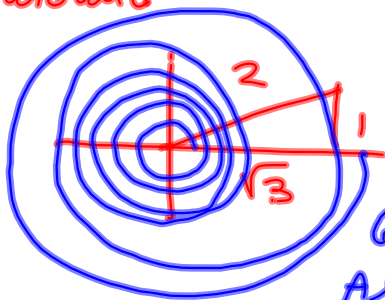
$$\theta = \frac{73}{6} \pi$$

$$\frac{\theta}{2\pi} = \frac{\frac{73}{6} \pi}{2\pi} = \frac{73}{12} = 6 + \frac{1}{12}$$

plus $\frac{1}{12}$ of the way around.
6 times around

$\frac{1}{12}$ of the way around

$$\frac{2\pi}{12} = \frac{\pi}{6}$$



is the pit.

6 times around.
All we care about is what's left over.

$$\Theta = 20,640^\circ$$

$$\frac{20640}{360} =$$

$$360 \cdot 57 + 120$$

$$\frac{\%}{360}$$

evalf(%)

$$20640 - 57 \cdot 360$$

$$20640$$

$$\frac{172}{3}$$

$$57.33333333$$

$$120$$

Build the question

Divide by 360°

Make it floating point

we want the remainder!

$$\frac{20640}{360} = 57 + \frac{120}{360}$$

$$20640 = (57)(360) + \frac{120}{}$$

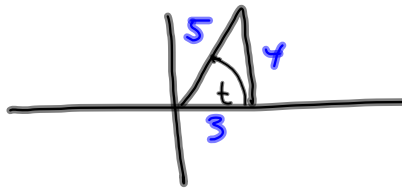
↳ what we want!

COLLEGE ALGEBRA

"Division Algorithm"

#5 Use one trig value to find another
 37-
 42

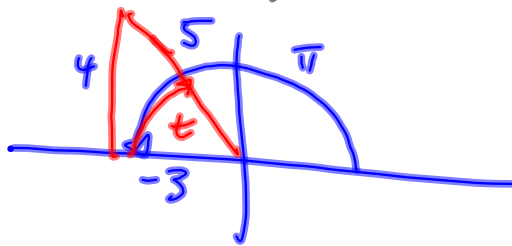
$$\sin(t) = \frac{4}{5}$$



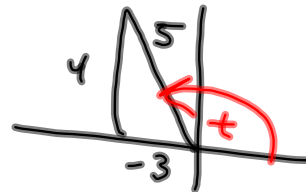
(a) $\sin(\pi - t)$

$$= \frac{4}{5}$$

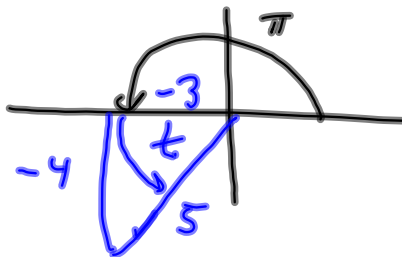
Add π , subtract t :



The other pic
 for $\sin(t) = \frac{4}{5}$



$\sin(\pi + t)$



Make the same
 moves. It
 should come
 out the same.

#s 43, 45 ~~EX~~

$$\tan\left(\frac{\pi}{3}\right) \approx 1.7321$$

Make sure you're in radians mode!

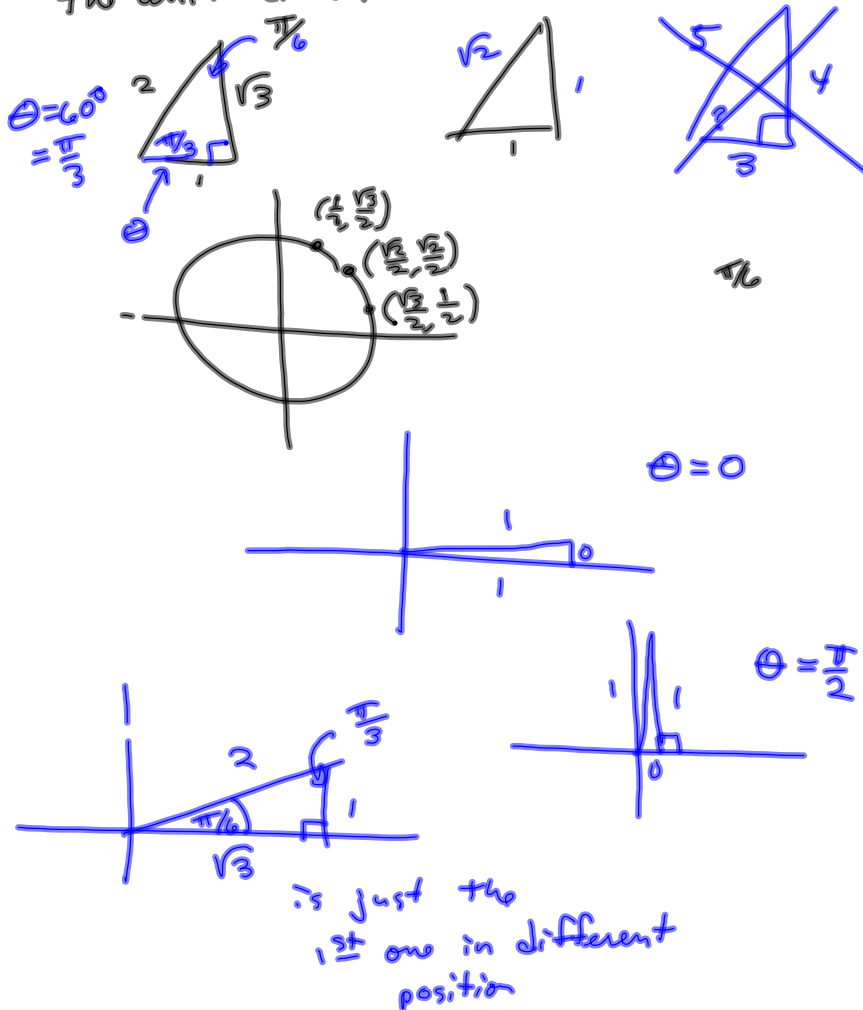
$$\frac{\pi}{3} \approx 1.047$$

So in degrees, that's tiny!



So sine is teeny tiny!

§1.3 See & Know Table, pg 141.
 I have it memorized, but not on
 the unit circle



That table has it all, except

$\sin 0$	$\cos 0$	$\tan 0$
$\sin \frac{\pi}{2}$	$\cos \frac{\pi}{2}$	$\tan \frac{\pi}{2}$

Trig Identities pg 142

$$\sin\left(\frac{19\pi}{6}\right) =$$

$$\frac{\frac{19\pi}{6}}{2\pi} = \frac{19}{12} = 1 \frac{7}{12} \text{ times around the circle}$$

is so all we care about is $\frac{7}{12}$ around
 the circle.

$$\frac{7}{12} \cdot 2\pi = \frac{7\pi}{6} \text{ is the angle}$$