

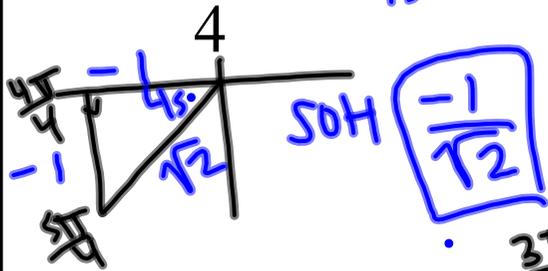
1.10 Exact Values Continued...

EQ: How do I calculate the exact value of a given trig function?

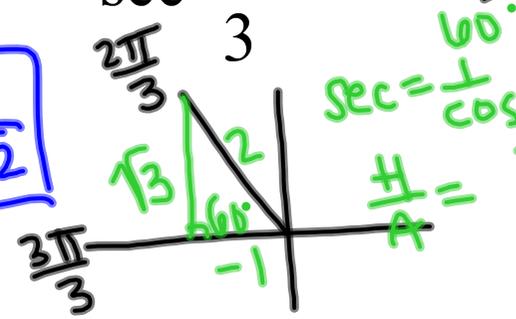
Warm-Up Tuesday

Find the exact value.

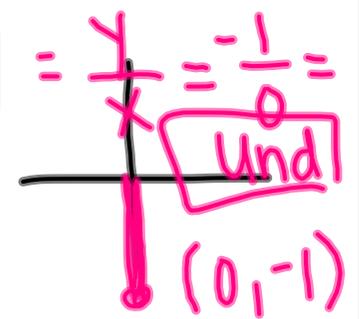
1. $\sin \frac{5\pi}{4}$ ref $\angle \frac{\pi}{4}$ 45°



2. $\sec \frac{2\pi}{3}$ ref $\angle \frac{\pi}{3}$ 60°



3. $\tan \left(\frac{-\pi}{2} \right)$



30	60	90
1	$\sqrt{3}$	2

About Me

1. Tell me your favorite (school appropriate!!!) joke
2. What's your favorite YouTube video?

Name: _____

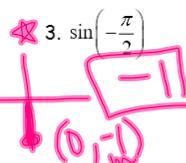
HW: Reg PC

1.9 The Unit Circle

Find the exact value:

1. $\tan \frac{3\pi}{2}$

2. $\cos \pi$



3. $\sin\left(-\frac{\pi}{2}\right)$

4. $\sec \frac{3\pi}{2}$

5. $\csc \frac{\pi}{2}$

6. $\cos \frac{5\pi}{2}$



7. $\tan 4\pi$

8. $\cot \frac{\pi}{2}$

$\frac{y}{x} = \frac{0}{1} = 0$

9. If $\csc \theta > 0$, then θ lies in quadrant(s) _____

10. If $\sin \theta < 0$, and $\cos \theta > 0$ then θ lies in quadrant(s) _____

11. Which of the following points is not on the unit circle?

A) $(-1, 0)$

B) $\left(\frac{1}{2}, -\frac{1}{2}\right)$

C) $\left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$

D) $\left(-\frac{\sqrt{3}}{2}, -\frac{1}{2}\right)$

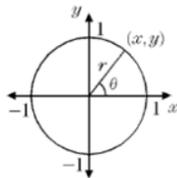
12. In the accompanying diagram of a unit circle, the ordered pair (x, y) represents the locus of points for the circle. Which ordered pair is equivalent to (x, y) ?

a) $(\sin \theta, \cos \theta)$

b) $(\cot \theta, \tan \theta)$

c) $(\tan \theta, \cot \theta)$

d) $(\cos \theta, \sin \theta)$



1.10 Exact Values Continued...

EQ:

How do I calculate the exact value of a given trig function?

Survey...

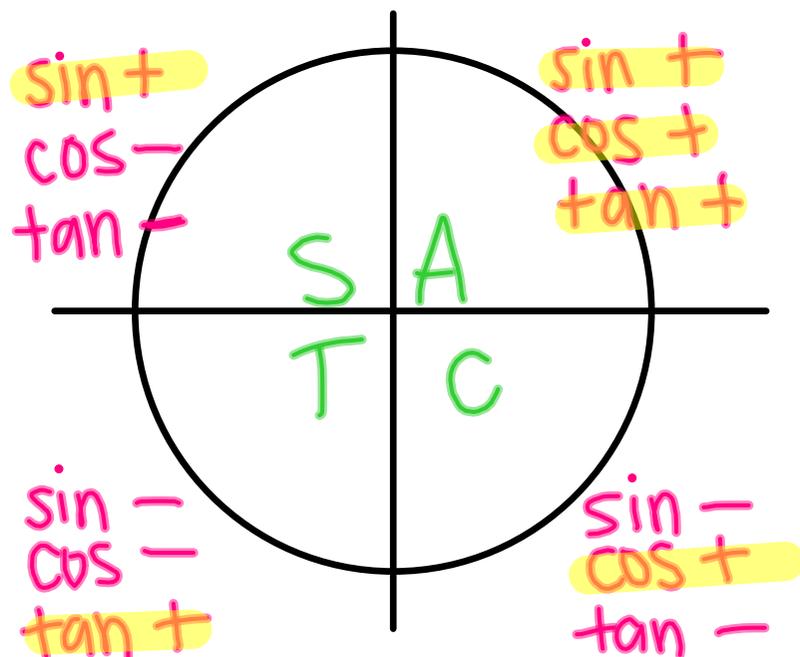
<https://goo.gl/EsNjDH>



1.10 Exact Values Continued...

EQ: **How do I calculate the exact value of a given trig function?**

The Unit Circle



$$y \rightarrow \sin \theta$$

$$x \rightarrow \cos \theta$$

$$(\cos \theta, \sin \theta)$$

$$\tan \theta \rightarrow \frac{y}{x}$$

"All Students Take classes"
 ↳ which trig is POSITIVE in each Q.

1.10 Exact Values Continued...

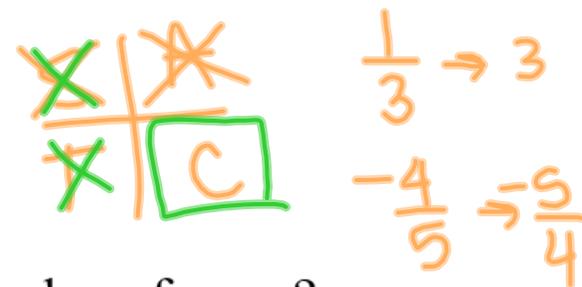
EQ: **How do I calculate the exact value of a given trig function?**

1. If $\sin\theta > 0$, then θ lies in quadrant(s) I or II

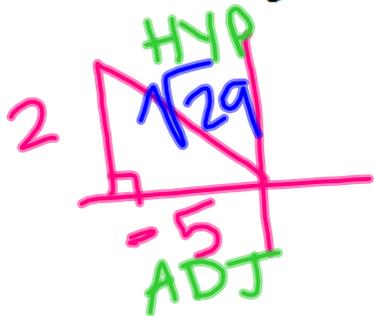
S	A
X	X

2. If $\csc\theta < 0$, and $\sec\theta > 0$ then θ lies in quadrant(s) IV

$\sin -$ $\cos +$



3. If $\tan x = -\frac{2}{5}$ and x lies in QII, what is the value of $\cos x$?



$$2^2 + (-5)^2 = c^2$$

$$4 + 25 = c^2$$

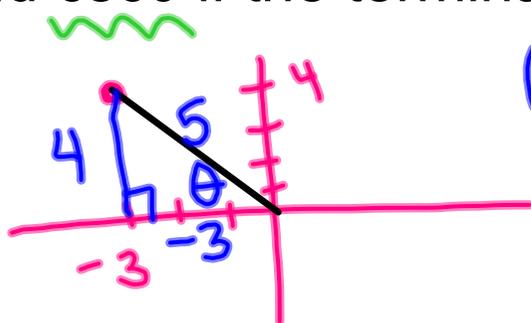
$$\sqrt{29} = c$$

$-\frac{5}{\sqrt{29}}$

1.10 Exact Values Continued...

EQ: **How do I calculate the exact value of a given trig function?**

4. Find $\csc\theta$ if the terminal side of θ passes through $(-3, 4)$

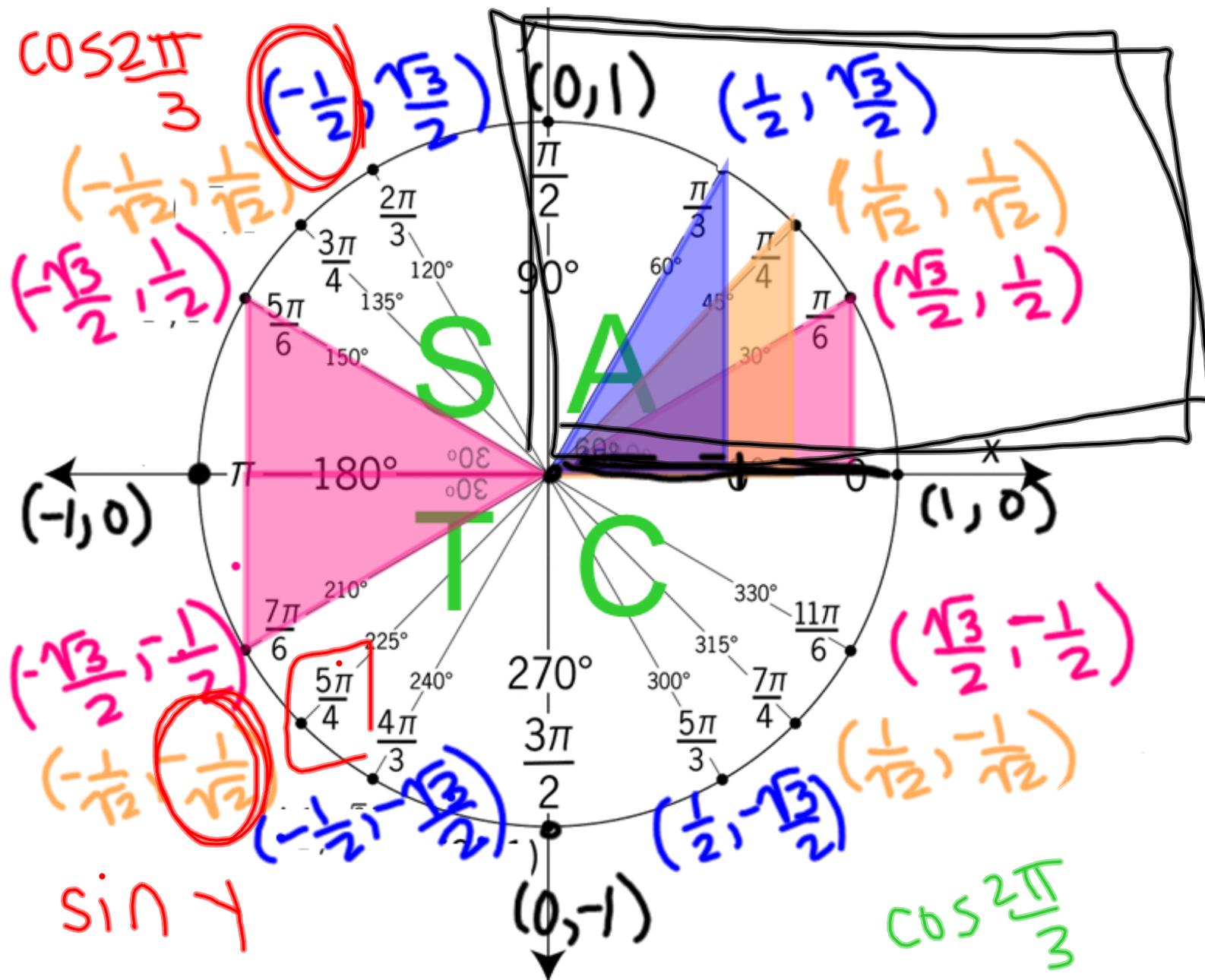


$$(-3)^2 + 4^2 = c^2$$
$$25 = c^2$$

x y

$$\frac{1}{\sin}$$

$$\frac{r}{y} = \boxed{\frac{5}{4}}$$



1.9 More Exact Values

Name: _____

Find the exact value of the following trig functions.

1. $\sin \frac{5\pi}{6}$

2. $\cos \frac{7\pi}{4}$

3. $\tan \frac{2\pi}{3}$

4. $\sec \frac{\pi}{4}$

5. $\csc \frac{5\pi}{6}$

6. $\cot \frac{5\pi}{4}$

7. $\cos \frac{13\pi}{6}$

8. $\sin \frac{8\pi}{3}$

9. If $\cos \theta > 0$, then θ lies in quadrant(s): _____12. If $\sin \theta > 0$, and $\cos \theta < 0$, then θ lies in quadrant(s): _____10. If $\cot \theta > 0$, then θ lies in quadrant(s): _____13. If $\cos \theta < 0$, and $\tan \theta > 0$, then θ lies in quadrant(s): _____11. If $\csc \theta < 0$, then θ lies in quadrant(s): _____14. If $\cot \theta < 0$, and $\sec \theta > 0$, then θ lies in quadrant(s): _____15. Find the exact value of all six trig functions of an angle θ , whose terminal side passes through (3, -7)16. Find the exact value of all six trig functions of an angle θ , whose terminal side passes through (-5, 2)

1.9 Exact Values Continued...

EQ: **How do I calculate the exact value of a given trig function?**

Closing

**SHOW YOUR WORK/EXPLAIN
YOUR REASONING!**

12. If $\sin \theta > 0$, and $\cos \theta < 0$, then θ lies in
quadrant(s): _____