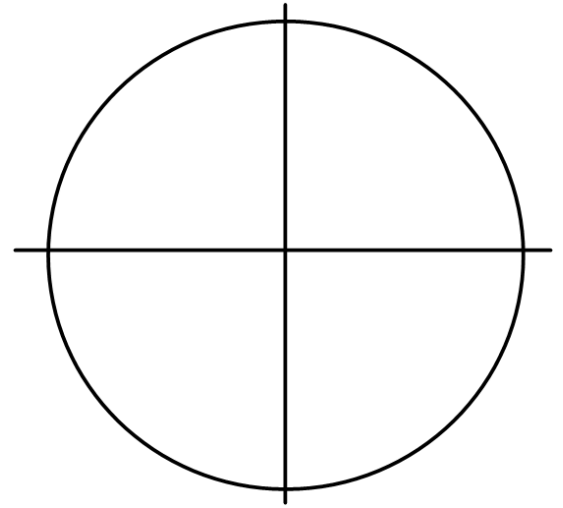
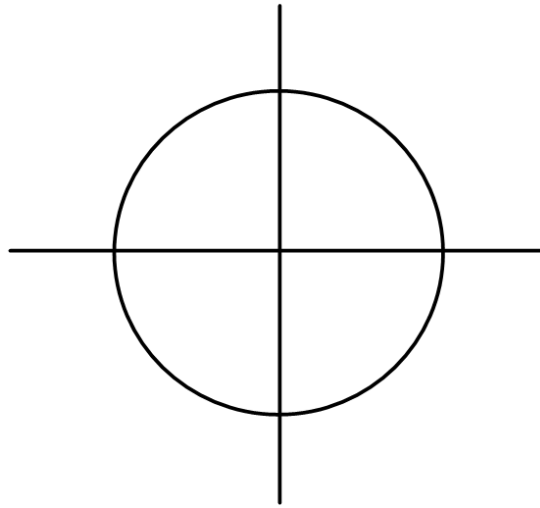


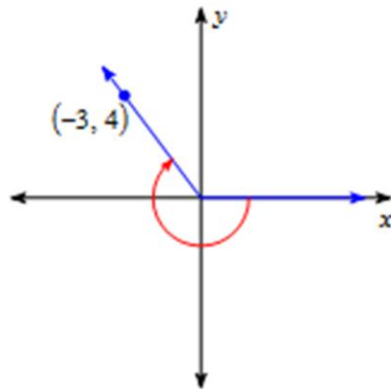
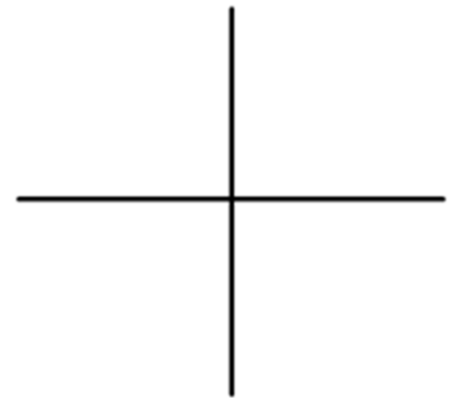
Pre-Calculus

Write your
questions here!

Unit Circle –



Reference Triangles –

Find $\sin \theta$ Find $\cos \theta$

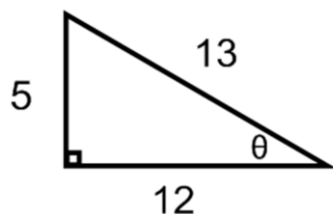
Given θ is in Quadrant IV and $\sin \theta = -\frac{3}{5}$, then find $\cos \theta$.

Reciprocal Trig Functions

$$\sin \theta = \quad \quad \quad \csc \theta =$$

$$\cos \theta = \quad \quad \quad \sec \theta =$$

$$\tan \theta = \quad \quad \quad \cot \theta =$$



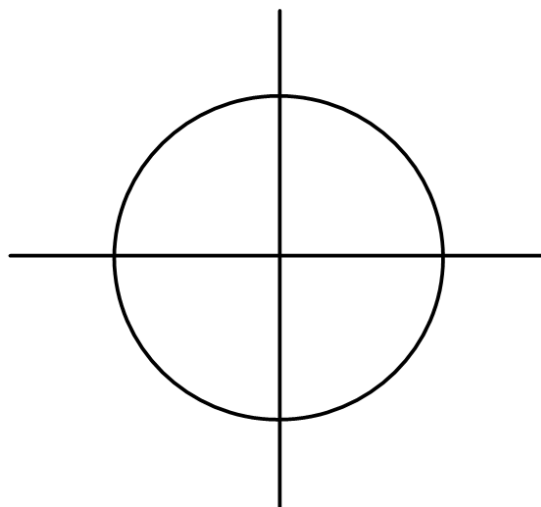
$$\sin \theta = \quad \quad \quad \csc \theta =$$

$$\cos \theta = \quad \quad \quad \sec \theta =$$

$$\tan \theta = \quad \quad \quad \cot \theta =$$

Given $\frac{\pi}{2} \leq \theta \leq \pi$ and $\sin \theta = \frac{8}{17}$, then find all six trig functions.

Positive Negative Quadrants



What quadrant(s) can θ lie if...

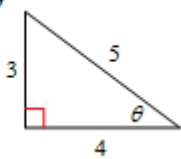
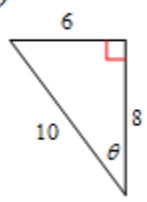
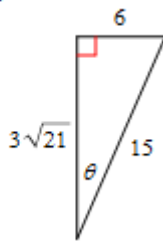

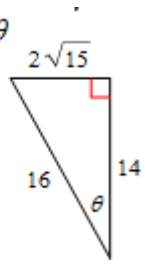
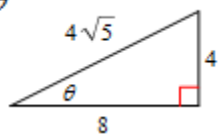
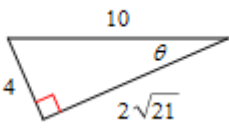
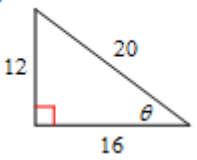
- $\sin \theta > 0$ and $\cos \theta < 0$
- $\sin \theta$ and $\tan \theta$ have the same sign
- $\cot \theta$ and $\sec \theta$ have opposite signs

SUMMARY:

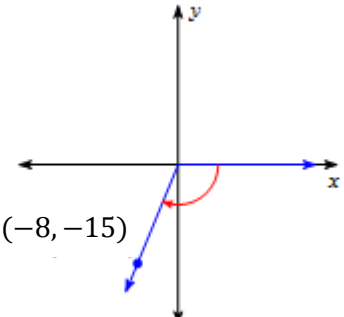
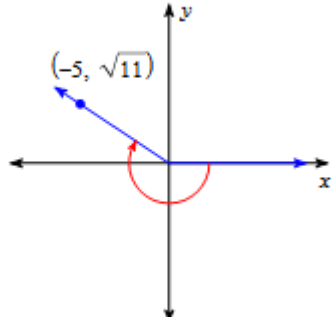
Now,
summarize
your notes
here!



Find the RATIO of the trig function indicated. Do NOT find the actual measure of the angle!

<p>1. $\tan \theta$</p> 	<p>2. $\sin \theta$</p> 	<p>3. $\cot \theta$</p> 	<p>4. $\sec \theta$</p> 
<p>5. $\csc \theta$</p> 	<p>6. $\cos \theta$</p> 	<p>7. $\csc \theta$</p> 	<p>8. $\sec \theta$</p> 

Use the given point on the terminal side of the angle θ to find the trigonometric function indicated.

<p>9. $\sec \theta$</p> 	<p>10. $\sec \theta$</p> 
---------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------

Draw the reference triangle. Find the EXACT value of the trig ratio for θ .

<p>11. $\sin \theta$ for $(6, 8)$</p>	<p>12. $\cos \theta$ for $(\sqrt{3}, -1)$</p>
<p>13. $\sec \theta$ for $(-15, -5)$</p>	<p>14. $\csc \theta$ for $(-2, 2\sqrt{3})$</p>

Draw the reference triangle. Find the EXACT value of the trig ratio for θ .

15. Given $\tan \theta = \frac{12}{5}$ in quadrant III.

Find $\csc \theta$.

16. Given $\sec \theta = -\frac{5}{4}$ where $\frac{\pi}{2} < \theta < \pi$.

Find $\tan \theta$.

17. Given $\tan \theta = -\frac{15}{8}$ where $\sin \theta < 0$.

Find $\cos \theta$.

18. Given $\cos \theta = -\frac{\sqrt{5}}{3}$ where $\tan \theta$ is negative.

Find $\csc \theta$.

Find the exact value of the other five trig functions for angle θ in standard position.

19. $\tan \theta = 3$ in quadrant III

20. $\csc \theta = \frac{5}{3}$ in quadrant II

Let θ be an angle in standard position. In which quadrant or quadrants can θ lie under the given conditions?

21. $\cos \theta$ is negative

22. $\tan \theta > 0$

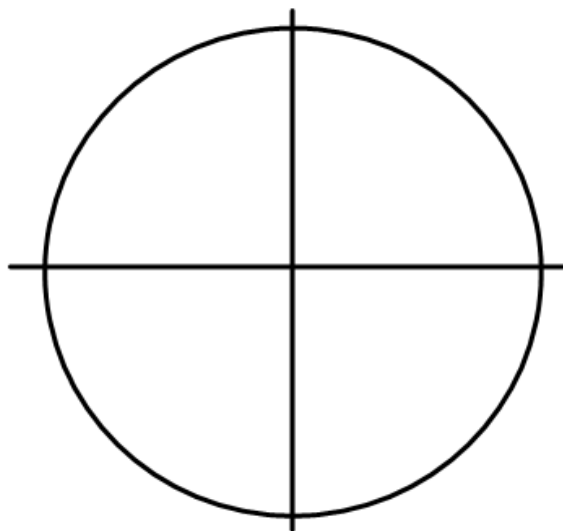
23. $\cos \theta$ and $\tan \theta$ have the same sign

24. $\sin \theta$ is negative and $\cos \theta$ is positive

25. $\sin \theta$ and $\cos \theta$ have the opposite sign

26. $\csc \theta < 0$

27. $\cot \theta$ is negative



Skillz Review! Let's put some Trig in our Algebra!

MULTIPLY MONOMIAL BY BINOMIAL aka DISTRIBUTE

$$3x(4x - 5)$$

$$\sin x(\sin x + 1)$$

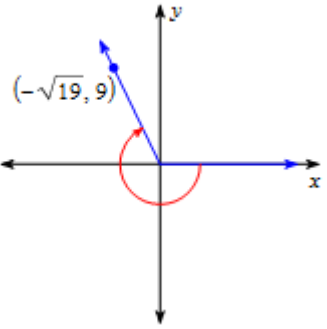
$$2 \cos \theta(3 \cos \theta - \sin \theta)$$

MULTIPLY BINOMIAL BY BINOMIAL aka FOIL

$$(3x + 2)(2x - 5)$$

$$(\sin \theta + 2)(\sin \theta - 5)$$

$$(\cos x + \tan y)(\cos x - \tan y)$$

Use the given point on the terminal side of the angle θ to find the trigonometric function indicated.	Draw the reference triangle. Find the EXACT value of the trig ratio for θ .
<p>1. $\sec \theta$</p> 	<p>2. $\cot \theta$ for $(10, -24)$</p>

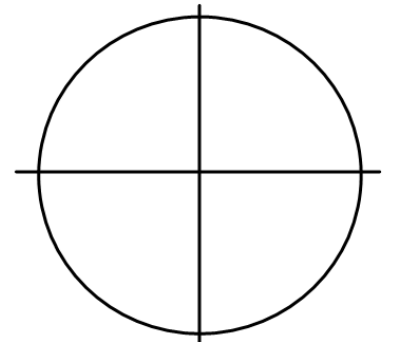
3. A Unit Circle has a radius of 1 and center at the origin, therefore the equation of the circle is $x^2 + y^2 = 1$. Determine if the following points lie on the unit circle.

a. $(\frac{1}{2}, -\frac{\sqrt{3}}{2})$

b. $(\frac{1}{4}, \frac{1}{4})$

Use the Unit Circle to answer the following...

- The $\sin 120^\circ$ has the exact same value as the sine of what other angle between 0° and 360° ?
- The $\cos 120^\circ$ has the exact same value as the cosine of what other angle between 0° and 360° ?
- The $\tan 120^\circ$ has the exact same value as the tangent of what other angle between 0° and 360° ?



It's all about that base... No tangents.

7. The base of the isosceles triangle is five times the height. Find the exact value of $\cot \theta$.

