Today's Plan:

Learning Target (standard): I will use the fundamental identities, the even and odd properties of trigonometric functions and the complementary angle theorem to evaluate trigonometric expressions.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

p.405 #68-82 even

* TEST on Monday! *

$68)\ \frac{\sqrt{3}}{3}$

$70)\ \frac{\sqrt{2}}{2}$

$72)\ \frac{\sqrt{2}-2}{2}$

$74)\ 1$

$76)\ 1$

$78)\ 0$

$80)\ 0.6$

$82)\ -6$

p.415 #48-62 even

48) 0

50) 1

52) 0

54) 0

56) 1

58 $a)\ 0.2$

$b)\ 0.96$

$c)\ 5$

$d)\ 5$

60 $a)\ \frac{1}{3}$

$b)\ 8$

$c)\ 3$

$d)\ \frac{8}{9}$

62 $a)\ \frac{1}{2}$

$b)\ 5$

$c)\ 2$

$d)\ \frac{5}{4}$

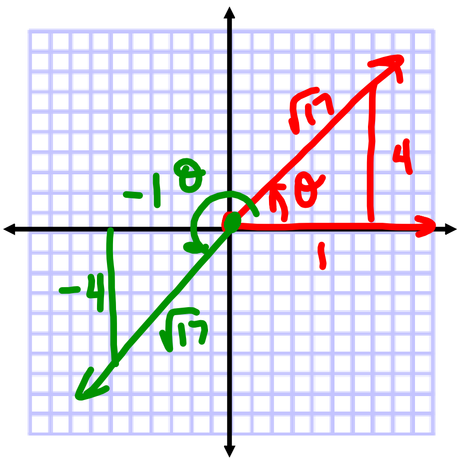
If tanΘ = 4, find the exact value of:

$$\sec^2\theta = (\sqrt{17})^2 \text{ or } (-\sqrt{17})^2 = 17$$

$$\cot\theta = \frac{1}{4}$$

$$\cot\left(\frac{\pi}{2}-\theta\right) = \tan\theta = 4$$

$$\csc^2\theta = \left(\frac{\sqrt{17}}{4}\right)^2 \text{ or } \left(\frac{-\sqrt{17}}{4}\right)^2 = \frac{17}{16}$$



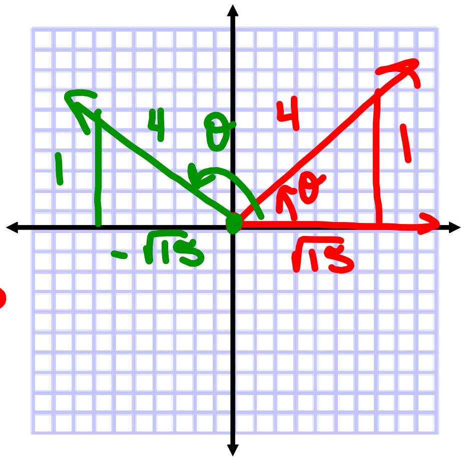
If $\csc\Theta = 4$, find the exact value of:

$\sin\theta = \frac{1}{4}$

$\cot^2\theta = \left(\frac{\sqrt{15}}{1}\right)^2$ or $\left(-\frac{\sqrt{15}}{1}\right)^2 = 15$

$\sec(90° - \theta) = \csc\theta = 4$

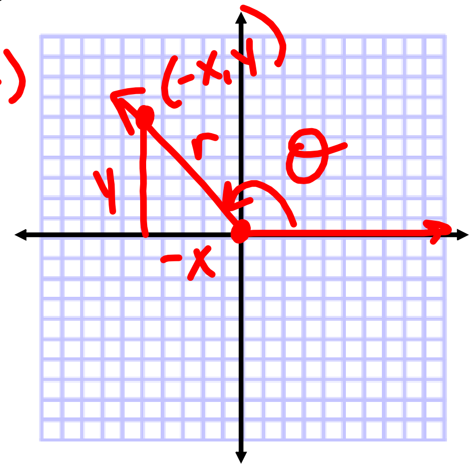
$\sec^2\theta = \left(\frac{4}{\sqrt{15}}\right)^2$ or $\left(-\frac{4}{\sqrt{15}}\right)^2 = \frac{16}{15}$



Name the quadrant in which the angle lies. Why?

$\sec\theta < 0$ $\sec\theta = \frac{r}{x}$ x(-)

$\sin\theta > 0$ $\sin\theta = \frac{y}{r}$ y(+)



Since $r = \sqrt{x^2 + y^2}$, r is always positive. In order for $\sec\theta < 0$, the x-value must be negative. In order for $\sin\theta > 0$, the y-value must be positive. From above, the x-value must be negative AND the y-value must be positive. This happens in QII.

Find the exact value.

$$\frac{\cot 30°}{\tan 60°}$$

$$\frac{(\tan(90°-30°))}{\tan 60°}$$

$$\frac{\tan 60°}{\tan 60°}$$

$$1$$

Find the exact value.

$$3-\sin^2 50°-\sin^2 40°$$

$$3-\sin^2 50°-(\cos^2(90°-40°))$$

$$3-\sin^2 50°-\cos^2 50°$$

$$3-(\sin^2 50°+\cos^2 50°)$$

$$3-((1))$$

$$2$$

Find the exact value.

$$\cos 35° \sin 55° + \sin 35° \cos 55°$$

$$(\sin(90°-35°))\sin 55° + (\cos(90°-35°))\cos 55°$$

$$\sin 55° \sin 55° + \cos 55° \cos 55°$$

$$\sin^2 55° + \cos^2 55°$$

$$(1)$$

$$1$$

Find the exact value.

$$\tan 20° - \frac{\cos 70°}{\cos 20°}$$

$$\tan 20° - \frac{(\sin(90°-70°))}{\cos 20°}$$

$$\tan 20° - \frac{\sin 20°}{\cos 20°}$$

$$\tan 20° - (\tan 20°)$$

$$0$$

Convert the angle to decimal-degrees.

$-35°24'14"$ $= 35 + \frac{24}{60} + \frac{14}{3600} = \frac{126000+1440+14}{3600}$

$-35.404°$ $= \frac{127454}{3600}$

$124°54'17"$ $= 124 + \frac{54}{60} + \frac{17}{3600} = \frac{446400+3240+17}{3600}$

$124.905°$ $= \frac{449657}{3600}$

$-56°36'43"$ $= 56 + \frac{36}{60} + \frac{43}{3600}$

$-56.612°$

$= \frac{201600+2160+43}{3600} = \frac{203803}{3600}$

Convert the angle to degree-minutes-seconds.

$54.346°$ $.346°(60) = 20.76'$

$54°20'45.6"$ $.76'(60) = 45.6"$

$-74.237°$ $.237°(60) = 14.22'$

$.22'(60) = 13.2"$

$-74°14'13.2"$

$456.72°$ $.72°(60) = 43.2'$

$456°43'12"$ $.2'(60) = 12"$

Convert the angle to radians.

$320°$ $\qquad 320 \cdot 1° = \frac{\pi}{180} \cdot 320$

$320° = \frac{16\pi}{9}$

$-135°$ $\qquad -135 \cdot 1° = \frac{\pi}{180} \cdot -135$

$-135° = -\frac{3\pi}{4}$

$400°$ $\qquad 400 \cdot 1° = \frac{\pi}{180} \cdot 400$

$400° = \frac{20\pi}{9}$

Assignment:

p.415 #2-42 even

* TEST on Monday! *