

14.1 Homework

	$\angle$	comp	supp
6	89°	1°	91°
12.	$50^\circ 40' 50''$	$39^\circ 19' 10''$	$129^\circ 19' 10''$



convert.
to deci

$$\frac{50}{60} + 40' \Rightarrow 50^\circ 40.8\bar{3}'$$

$$\text{then } 50^\circ + \frac{40.8\bar{3}}{60} = 50.680\bar{5}^\circ$$

Reverse

$$50^\circ (0.6805 \cdot 60)'$$

$$50^\circ 40.8\bar{3}'$$

$$50^\circ 40' (.8\bar{3} \cdot 60)''$$

$$50^\circ 40' 50''$$

$$18. \begin{array}{c|c} & 9x \\ \hline & 9x \end{array} \quad x = 10 \therefore 90^\circ \& 90^\circ$$

$$24. 90^\circ$$

$$\begin{array}{r} 30. 180 - x \\ 36. 47^{\circ} 23' \\ - 73^{\circ} 48' \\ \hline \end{array}$$

$$\begin{array}{r} - 73^{\circ} 48' \\ 47^{\circ} 23' \\ \hline - 26^{\circ} 25' \end{array}$$

$$\begin{array}{r} 42. 55 \quad 30 \\ + 12 \quad 44 \\ \hline 68^{\circ} 74' \\ - 8 \quad 15 \\ \hline 59^{\circ} 59' \end{array}$$

$$48. 133^{\circ} 45' = 133.75$$

$$\frac{45}{60} + 133$$

$$(54. 34^{\circ} 51' \quad 35'')$$

$$\frac{35}{60} + 51 = 51.58\overline{3}'$$

$$\frac{51.58\overline{3}}{60} + 34 = 34.8597\overline{2}^{\circ}$$

$$60. 174.255 \rightarrow .255(60) = 15.3$$

$$\text{Then } .3(60) = 18$$

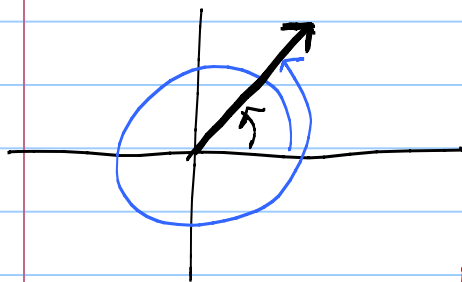
$$174^{\circ} 15' 18''$$

$$66. 102.3771^{\circ} \rightarrow .3771(60) = 22.626$$

$$(.626)(60) = 37.56''$$

$$102^{\circ} 22' 37.56''$$

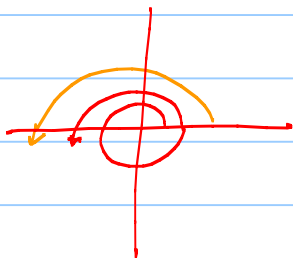
72. $58^\circ 40' \rightarrow$



$$\begin{array}{r} 58^\circ 40' \\ + 360 \\ \hline 418^\circ 40' \end{array}$$

78. 541°

$$\begin{array}{r} - 360 \\ \hline 181^\circ \end{array}$$



$$\begin{array}{r} 84. 1000^\circ \\ - 720 \\ \hline 280^\circ \end{array}$$

90. $\theta = 180^\circ$

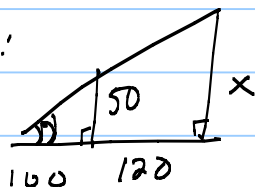
coterm $\angle$ s $+$: $540^\circ, 900^\circ$

coterm $\angle$ s $-$: $-180^\circ, -540^\circ$

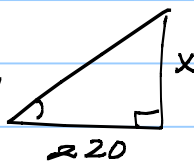
96. all coterm w $\theta = 225$

$$225 + n(360)$$

14.2.63 :



$\sim$



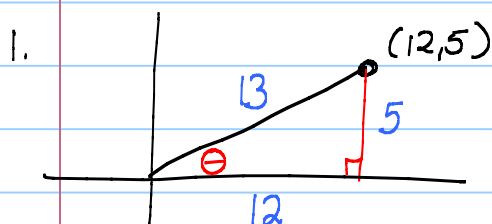
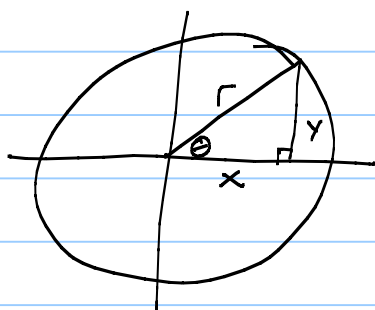
$$\rightarrow \frac{50}{100} = \frac{x}{220}$$

$$x = 110$$

14.3:

$$\begin{aligned}\sin \theta &= \frac{O}{H} = \frac{y}{r} \\ \cos \theta &= \frac{A}{H} = \frac{x}{r} \\ \tan \theta &= \frac{O}{A} = \frac{y}{x}\end{aligned}$$

$$\begin{aligned}\csc \theta &= \frac{H}{O} = \frac{r}{y} \\ \sec \theta &= \frac{H}{A} = \frac{r}{x} \\ \cot \theta &= \frac{A}{O} = \frac{x}{y}\end{aligned}$$



$$\sin \theta = 5/13$$

$$\csc \theta = 13/5$$

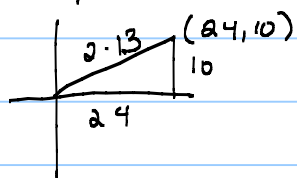
$$\cos \theta = 12/13$$

$$\sec \theta = 13/12$$

$$\tan \theta = 5/12$$

$$\cot \theta = 12/5$$

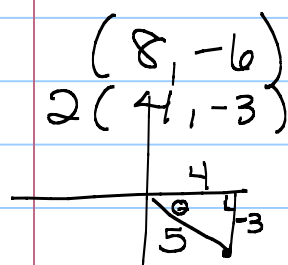
2. The terminal side of $\angle \theta$ in standard position passes through $(24, 10)$. Find the values of the 6 trig. functions of $\angle \theta$.



$2(5, 12, 13)$ $\therefore$ all trig values are the same as above

$$\sin \theta = \frac{10}{26} \text{ reduces } 5/13$$

NOTE: $\frac{1}{\sin(\theta)} = \csc \theta$



$$\sin \theta = -3/5$$

$$\csc \theta = -5/3$$

$$\cos \theta = -4/5$$

$$\sec \theta = -5/4$$

$$\tan \theta = 3/4$$

$$\cot \theta = 4/3$$

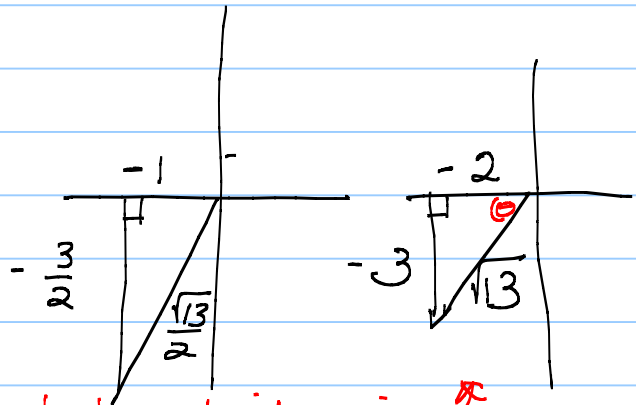
3. $3x - 2y = 0, x \leq 0$

$$y = \frac{3}{2}x$$

$$1^2 + \left(\frac{3}{2}\right)^2 = h^2$$

$$\sqrt{\frac{4}{4} + \frac{9}{4}} = h$$

$$\frac{\sqrt{13}}{2} = h$$



scale to make it easier ↗

$$\sin \theta = \frac{-3\sqrt{13}}{13}$$

$$\csc \theta =$$

$$\cos \theta = \frac{-2\sqrt{13}}{13}$$

$$\sec \theta =$$

$$\tan \theta = \frac{3}{2}$$

$$\cot \theta =$$

Do 6-90 x 6

