

Section 1.1

15. a.) $90^\circ - 54^\circ = 36^\circ$
b.) $180^\circ - 54^\circ = 126^\circ$

19. a) $90^\circ - 14^\circ 20' = 76^\circ$
 $\quad \quad \quad 75^\circ \quad 60'$
 $\quad \quad \quad - 20'$

$75^{\circ} 40'$

21. a) $90^\circ - 20^\circ 10' 30'' = 70^\circ$

$$\begin{array}{r} 69^{\circ} \quad 60' \\ - 10' \\ \hline 69^{\circ} \end{array}$$

$69^{\circ} 49' 30''$

Perform each calculation:

39. $62^{\circ} 18' + 21^{\circ} 41'$

$$\begin{array}{r} 41' \\ + 18' \\ \hline 59' \end{array}$$

$$\begin{array}{r} 62^{\circ} \\ + 21^{\circ} \\ \hline 83^{\circ} \end{array}$$

$83^{\circ} 59'$

47. $180^\circ - 119^\circ 26'$

$$\begin{array}{r} 180^\circ \\ - 119^\circ \\ \hline 61^\circ \end{array}$$

60° 34'

57. $-60^{\circ} 12'$
 $\frac{12'}{60'} = 0.2^{\circ}$ (-60.2°)

59. $20^{\circ} 54' 36'' \approx 20.91^{\circ}$

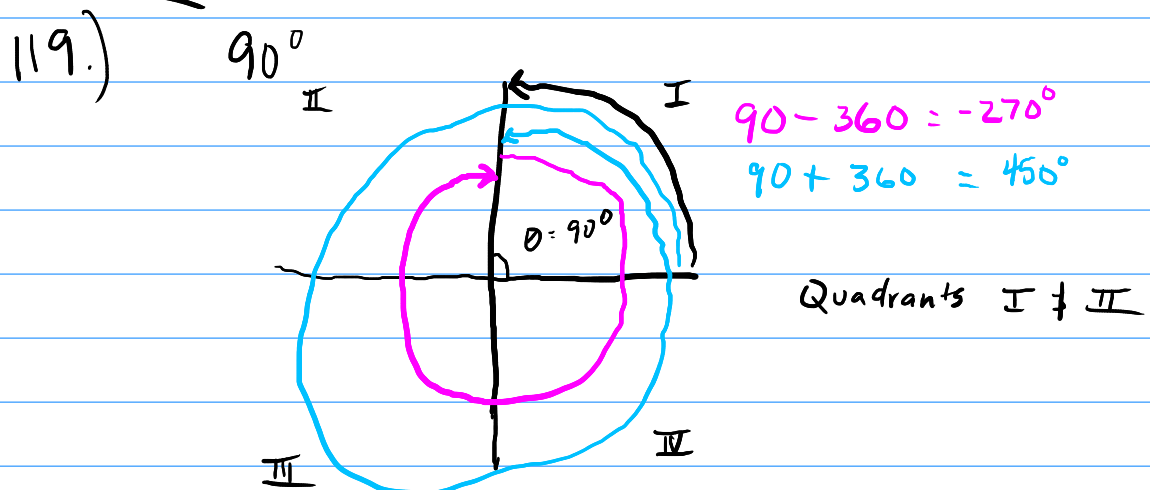
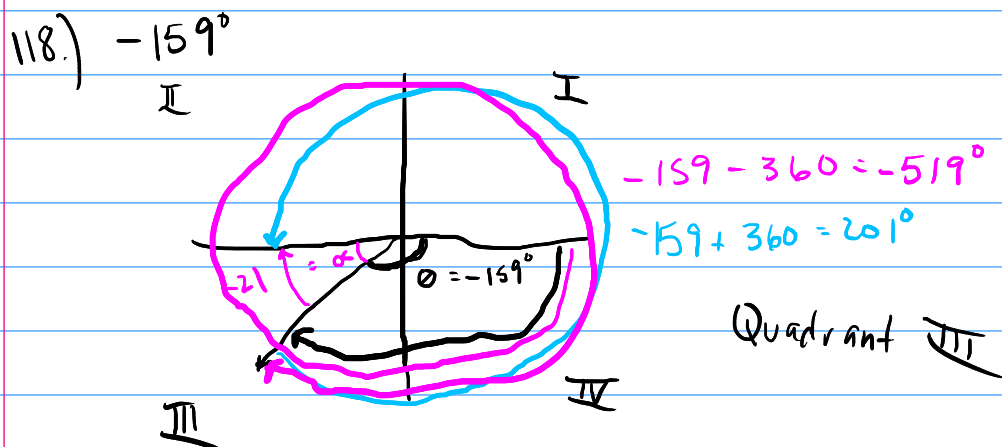
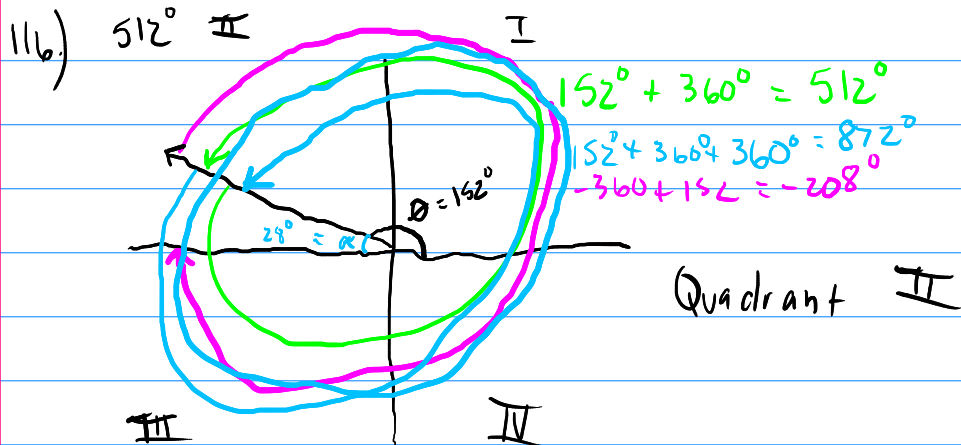
$\frac{54'}{60'} \approx 0.9^{\circ}$ $\frac{36''}{60''} = \frac{0.6}{60'} = 0.01^{\circ}$

Convert each angle measure to degrees, minutes, and seconds. If applicable, round to the nearest second.

69.) -18.515°
 $-.5^\circ (60') = -30'$
 $-.015^\circ (60')(60'') = -54''$

$-18^\circ 30' 54''$

Sketch each angle in standard position. Draw an arrow representing the correct amount of rotation. Find the measure of two other angles, one positive and one negative, that are coterminal with the given angle. Give the quadrant of each angle, if applicable.



Rotating Tire: A tire is rotating 600 times per min. Through how many degrees does a point on the edge of the tire move in 1/2 sec?

125.) 600/min

$$\begin{array}{r} 600'(60'') = 36000'' \\ - 0.5'' \\ \hline 35999.5'' \\ - 60'' \\ \hline \sim 599.985' \\ - 60' \\ \hline \sim 9.99972^\circ \end{array}$$