Calculation in degrees, minutes and seconds form

(a) $51^\circ 29' + 32^\circ 46'$

$$\begin{array}{r} 51^\circ 29' \\ +\ 32^\circ 46' \\ \hline 83^\circ 75' \end{array} \longrightarrow 84^\circ 15'$$

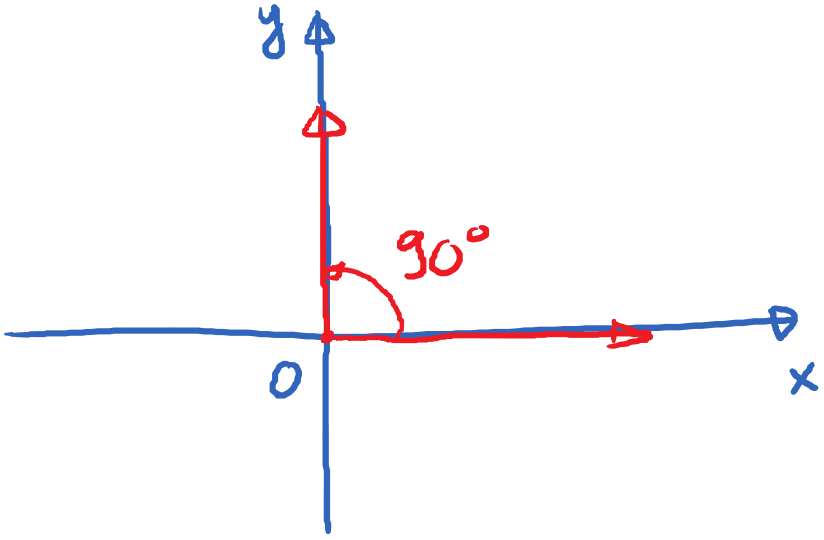
$$75' = 1^\circ 15'$$

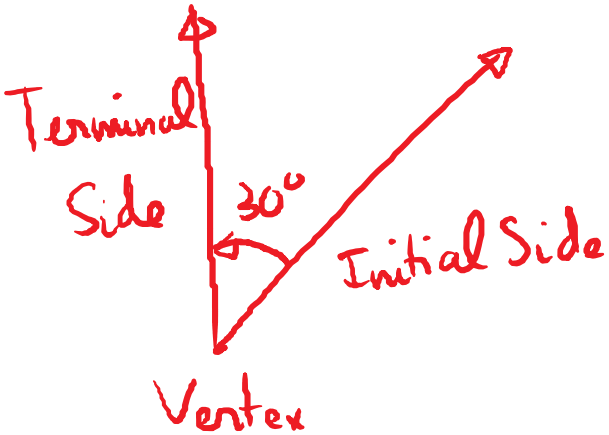
(b) $90^\circ - 73^\circ 12'$

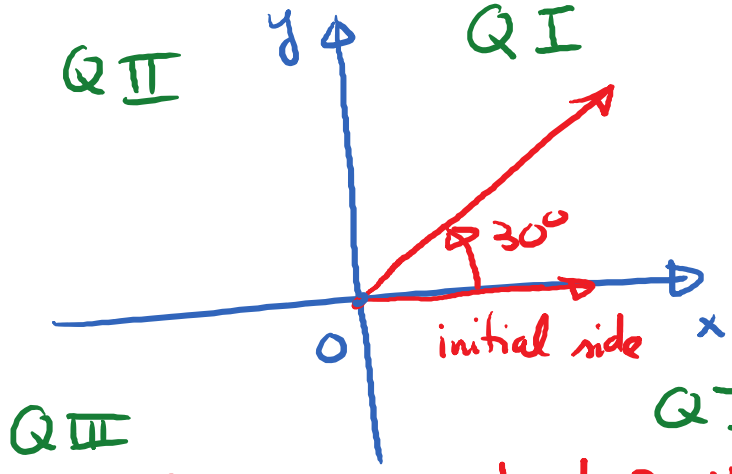
$$\begin{array}{r} 90^\circ \\ -\ 73^\circ 12' \\ \hline \end{array} \qquad \begin{array}{r} 89^\circ 60' \\ -\ 73^\circ \underline{1}2' \\ \hline 16^\circ 48' \end{array}$$

Standard Position of an angle

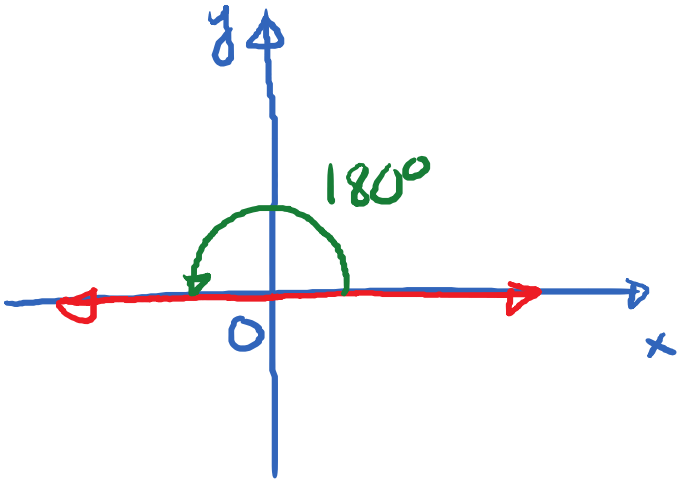
A angle is in standard position if its vertex is at the origin and the initial side of the angle must be along the positive part of the x-axis.

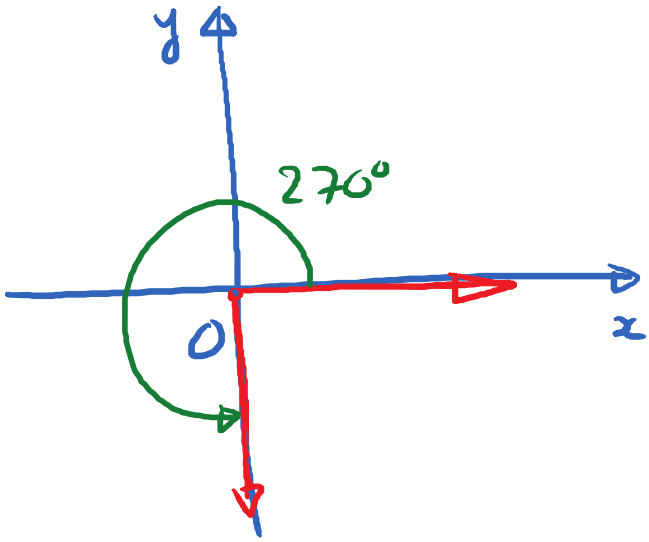


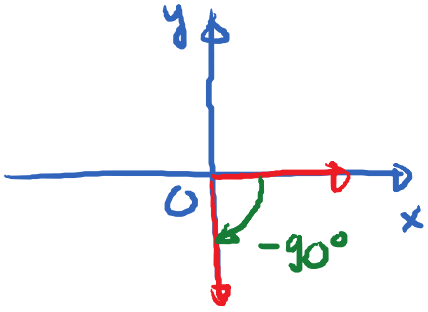


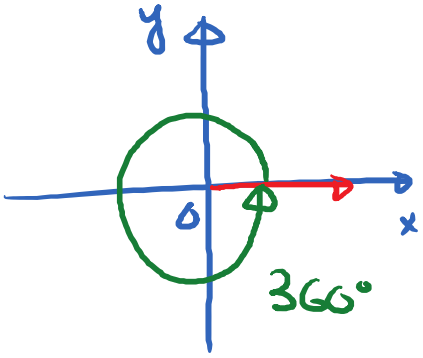


30° in Standard Position





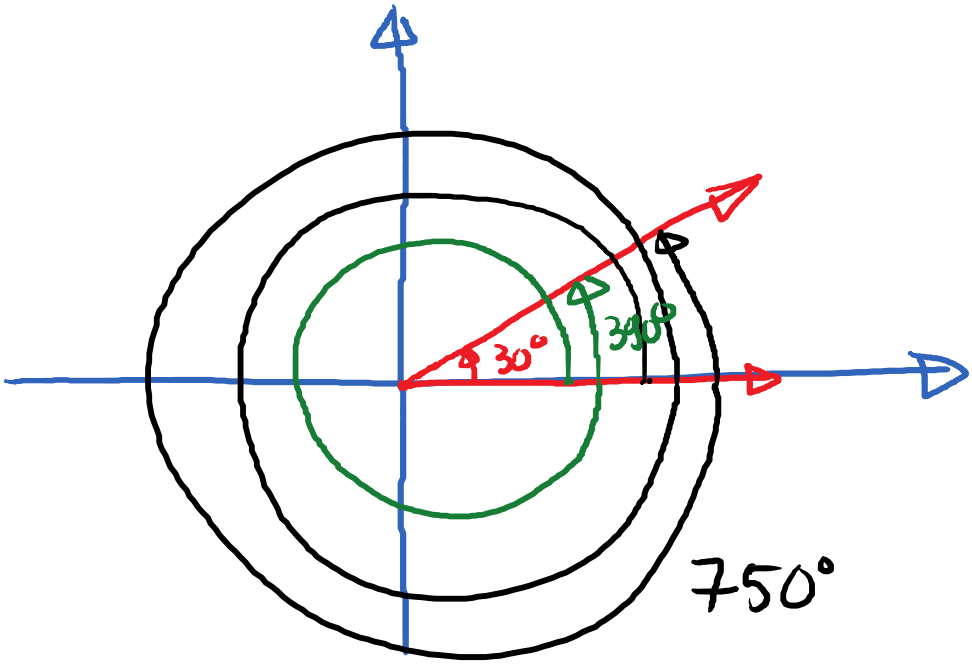




Coterminal angles

30° and 390° are coterminal angles.

# of full rotations	coterminal angles
0	30°
1	390°
2	750°
3	1110°



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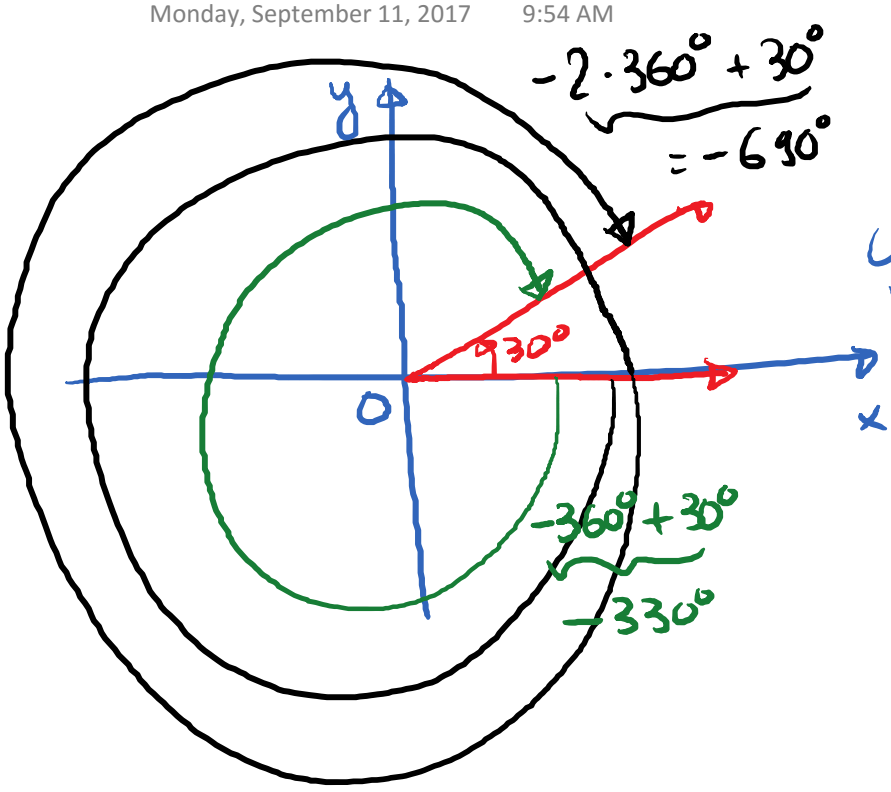

	# of full rotation	Coterminal angles
	0	$30°$
clockwise	1	$-360°+30°$ $-330°$
clockwise	2	$-2\cdot360°+30°$ $-690°$
clockwise	3	$-3\cdot360°+30°$ $-1050°$

The expression :

$30° + n\cdot360°$ where n is an integer

describes all angles that are coterminal with the $30°$ angle

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E.g. Find the angle of least positive measure coterminal with the angle of $908°$

$908° - 360° = 548°$

$548° - 360° = \boxed{188°}$

$548^\circ - 360^\circ = \boxed{188^\circ}$

E.g. Find the angle of least positive measure coterminale with the angle $-75°$

$$-75° + 360° = \boxed{285°}$$