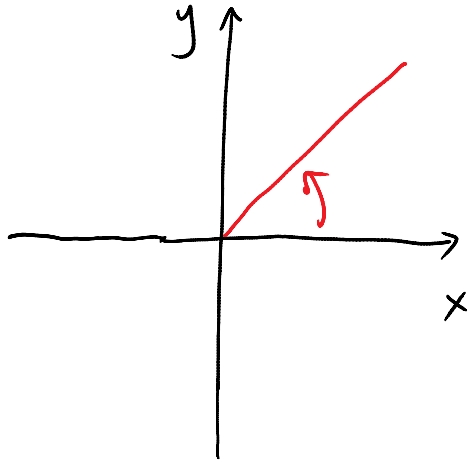


Section 4.4: Trig Functions of Any Angle

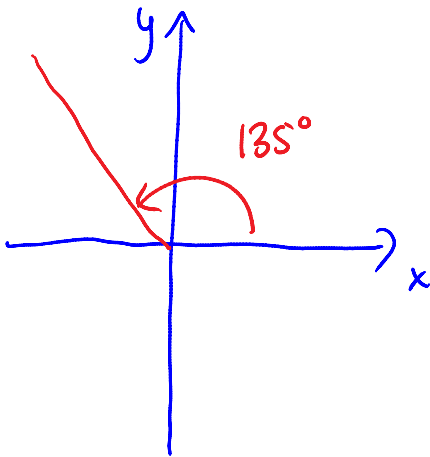
Monday, November 10, 2014
9:03 AM

angles in standard position:



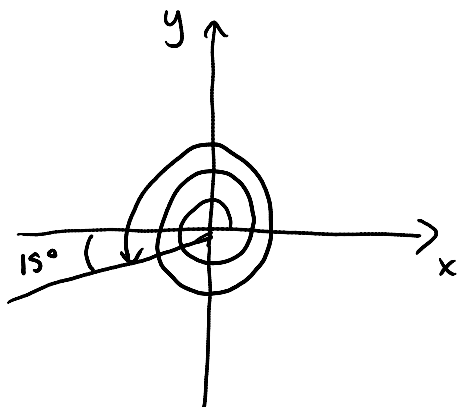
has its initial arm on the positive x-axis, then rotates counter-clockwise to the terminal arm

example: sketch 135° in standard position



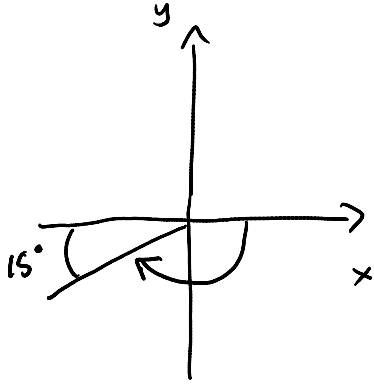
note: LABEL YOUR AXES

example: calculate the following angles:



$$\text{angle} = 720^\circ + 180^\circ + 15^\circ = 915^\circ$$

↑
2 revs



angle is clockwise, so negative

$$\begin{aligned} \text{angle} &= -(180^\circ - 15^\circ) \\ &= -165^\circ \end{aligned}$$

coterminal angles: angles that have the same terminal arm are called coterminal

so, -165° is coterminal with 915°
(and 195° and $(195^\circ + 360^\circ)$ and ...)

in fact, -165° is coterminal with

$$\left[-165^\circ + n \cdot 360^\circ, \text{ where } n \text{ is an integer} \right]$$