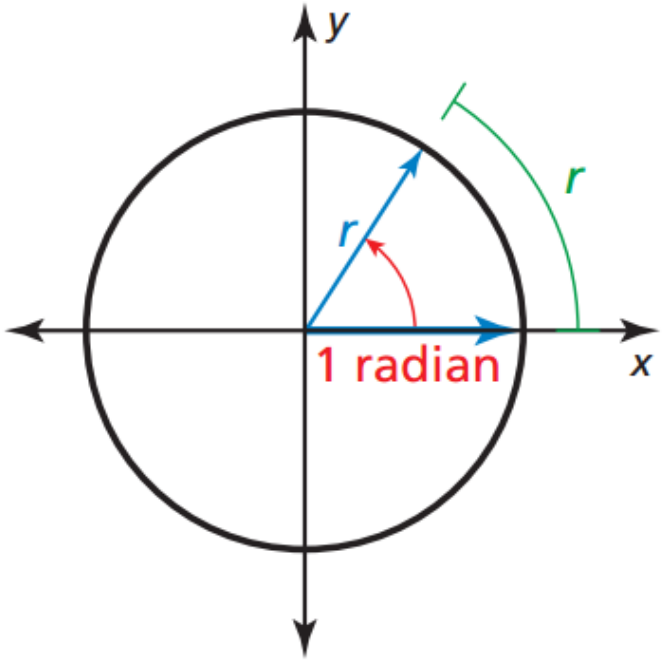
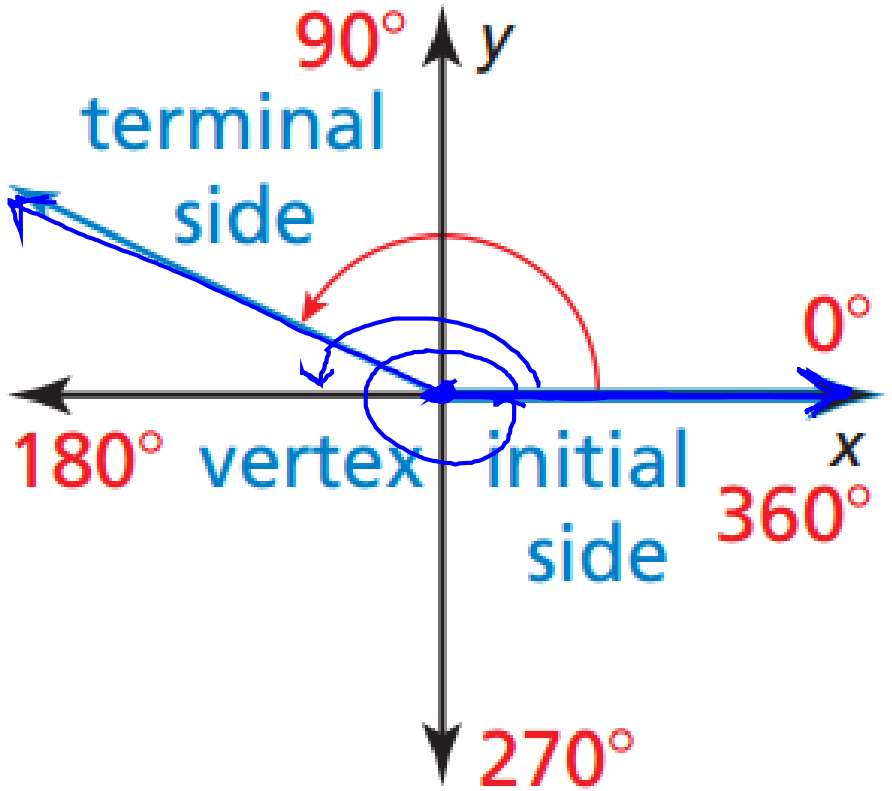
Angles and Radian Measure

Lesson 9.2



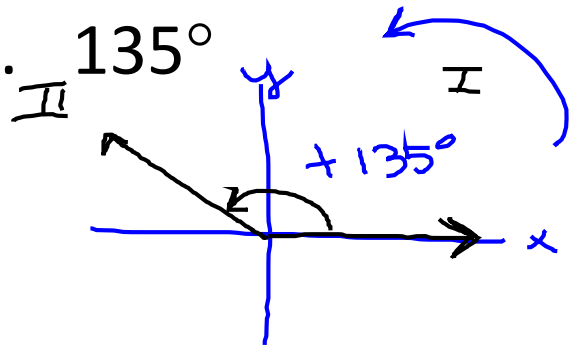
Angles in Standard Position

If we fix one ray, called the initial side to the positive x-axis, and rotate the other ray of an angle, called the terminal side, about the vertex, the angle is in standard position.

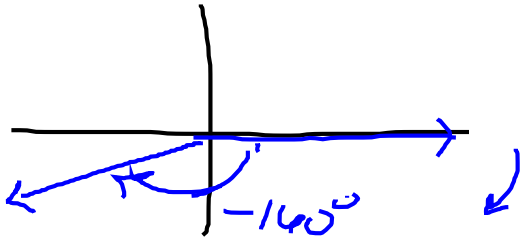


Drawing Angles in Standard Position

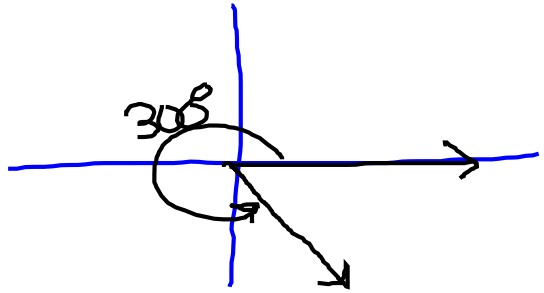
a. 135°



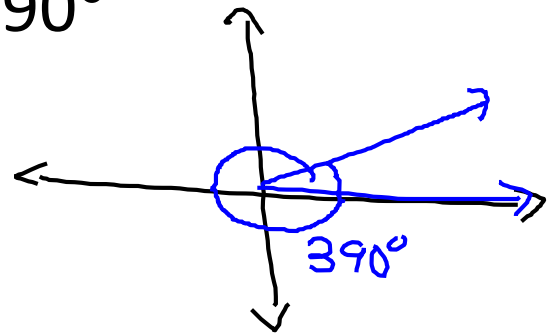
b. -160°



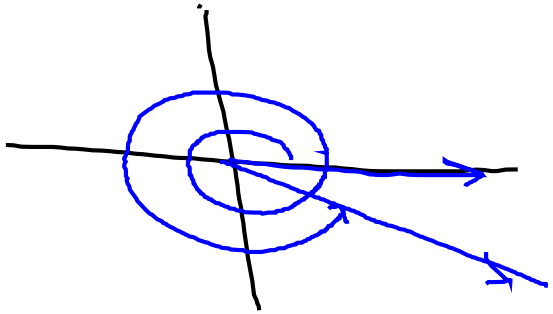
c. 300°



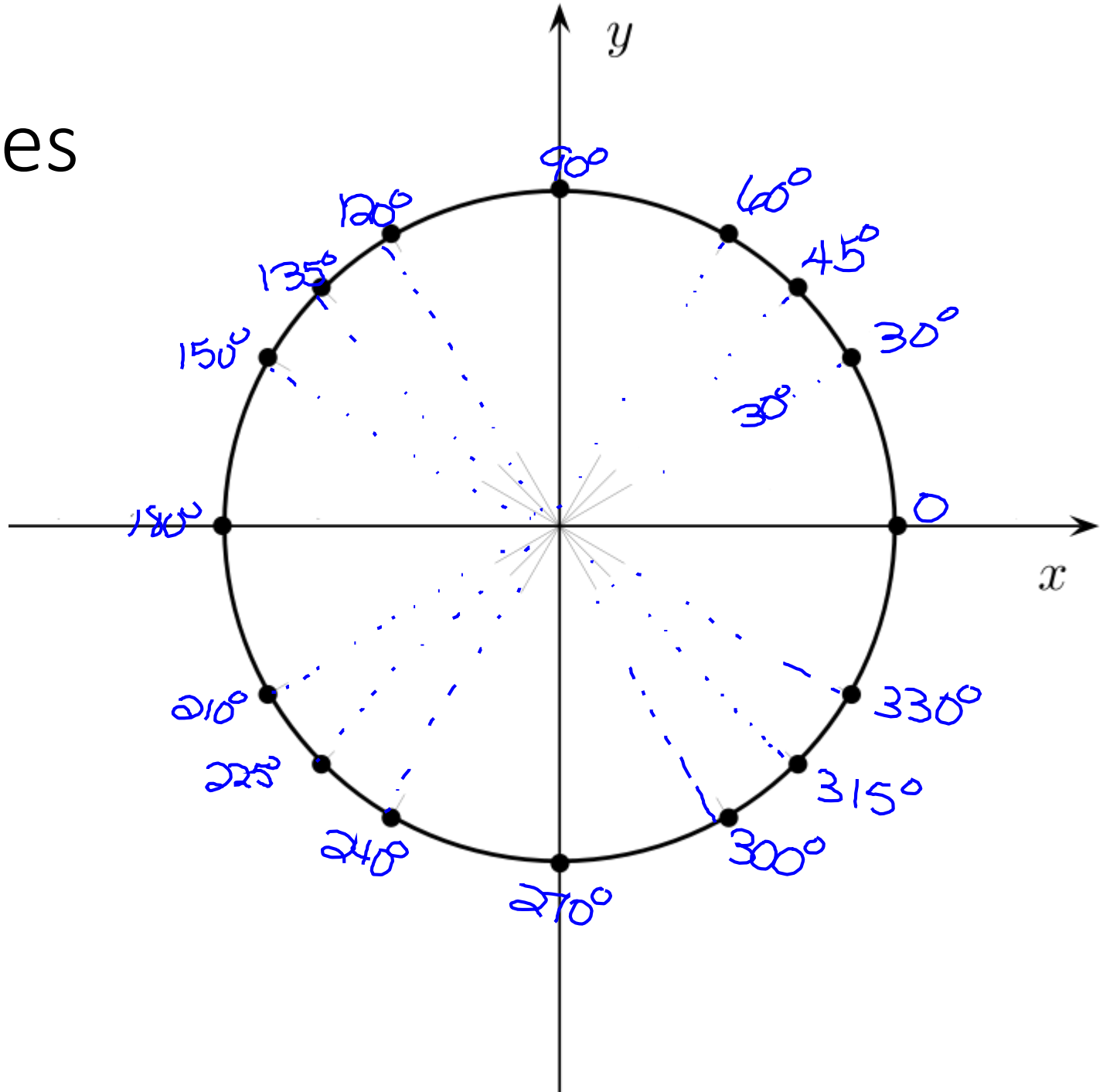
d. 390°



e. 690°

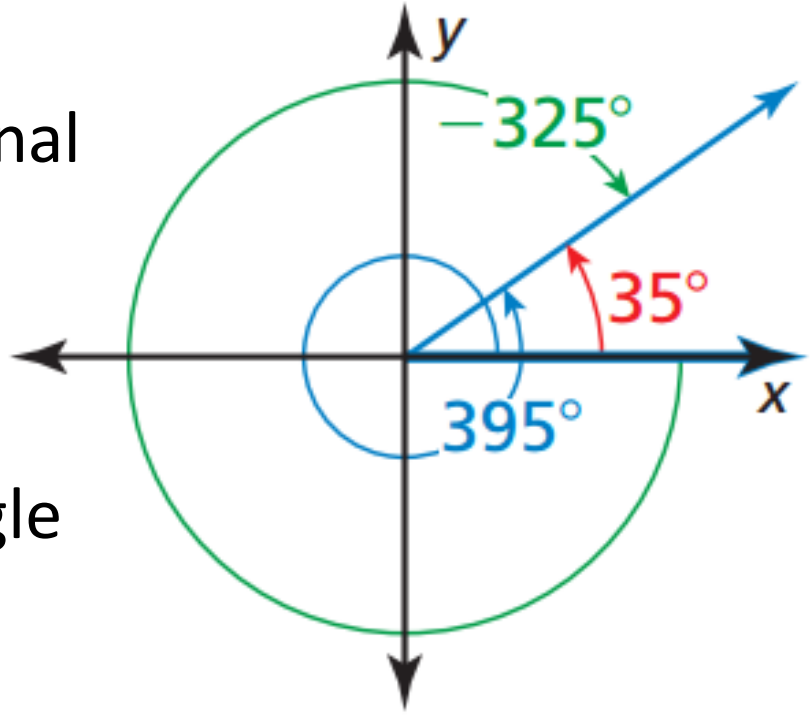


Special Angles



Finding Coterminal Angles

Angles are coterminal if they have the same terminal side. You can find coterminal angles by adding or subtracting 360°



Find one positive and one negative coterminal angle with the given angle.

a. -75°

285°

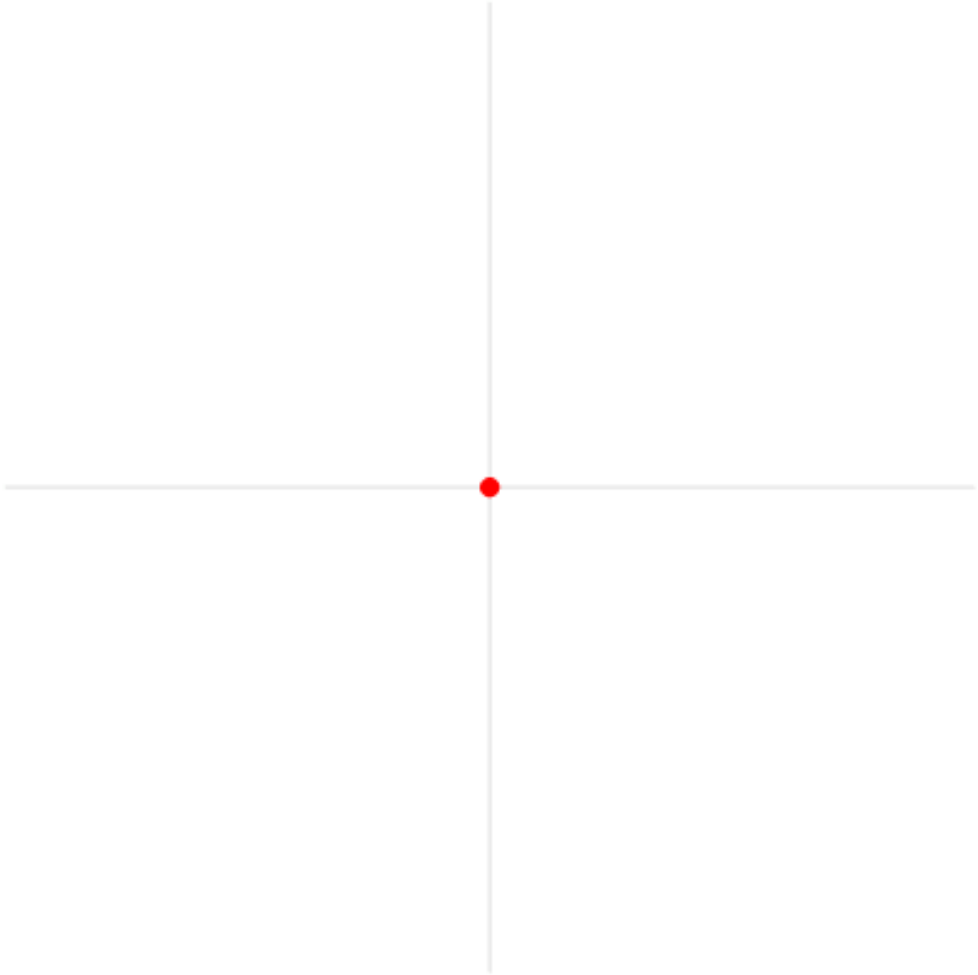
-435°

b. 460°

100°

− 260

Radian Measure



Source: http://distractify-media-prod.cdn.bingo/1537611-980x.jpg

Converting Between Degrees and Radians

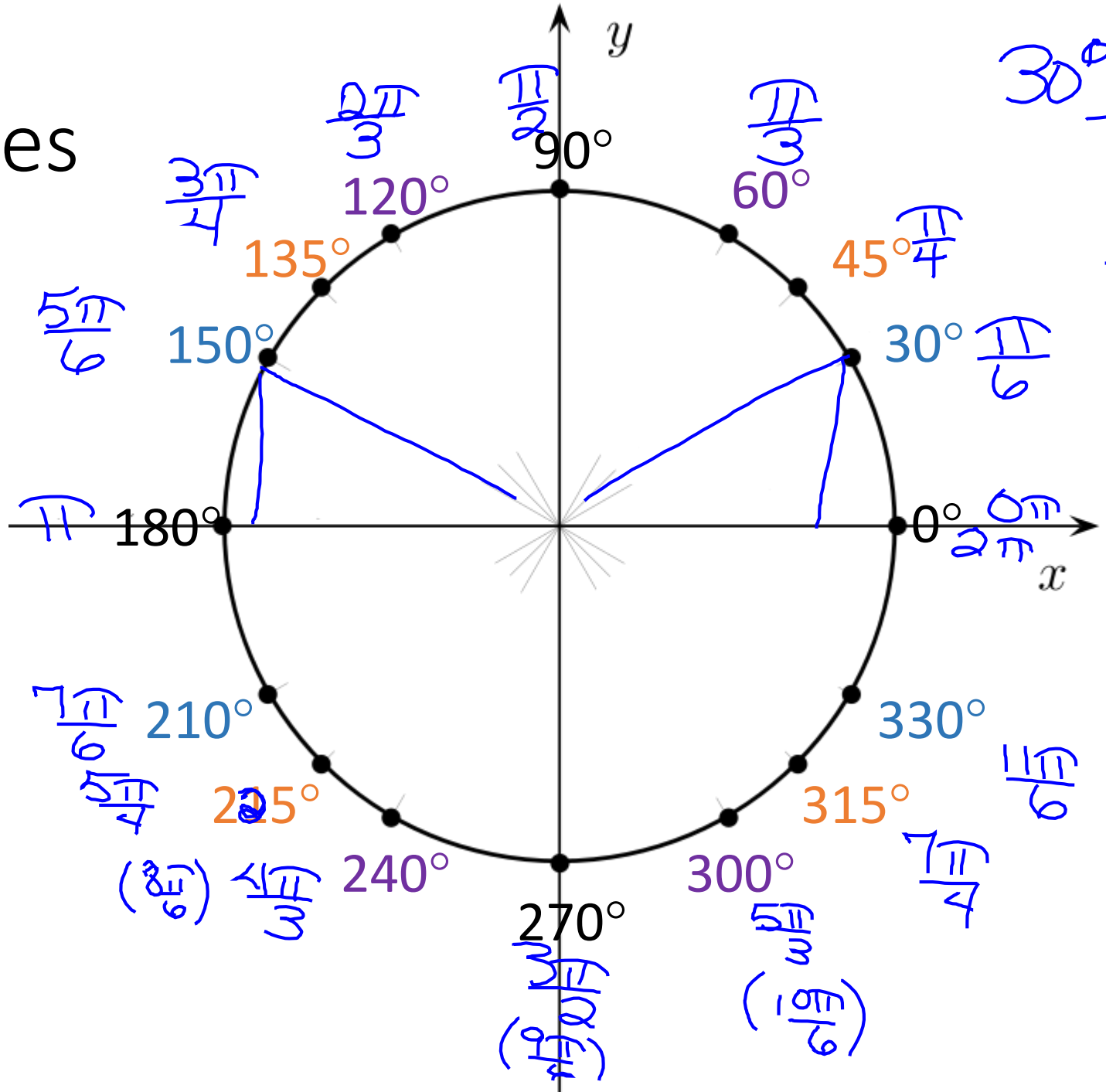
Degrees to Radians

Multiply degree measure by $\frac{\pi}{180}$

Radians to Degrees

Multiply radian measure by $\frac{180}{\pi}$

Special Angles



Convert the radian measures to degrees.

a. $\frac{5\pi}{4}$

$\frac{5\pi}{4} \cdot \frac{180^\circ}{\pi}$

225°

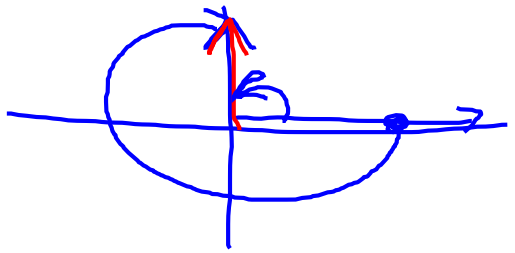
b. $\frac{7\pi}{6}$

$\frac{7\pi}{6} \cdot \frac{180^\circ}{\pi}$

210°

c. $\frac{-3\pi}{2}$

-270°



d. $\frac{3\pi}{10} \cdot \frac{180^\circ}{\pi}$

54°