Degrees aren't the only way to measure angles!

So, we know there are 360 degrees in a full rotation.
What about radians?

- About how many radians are in a full rotation?

- About how many radians are in a half rotation?

- Exactly how many radians are in a full rotation?

- Exactly how many radians are in a half rotation?

RADIAN MEASURE Angles can also be measured in
radians. To define a radian, consider a circle with
radius r centered at the origin as shown. One radian
is the measure of an angle in standard position
whose terminal side intercepts an arc of length r.

Because the circumference of a circle is $2\pi r$, there
are 2π radians in a full circle. Degree measure and
radian measure are therefore related by the equation
$360° = 2\pi$ radians, or $180° = \pi$ radians.
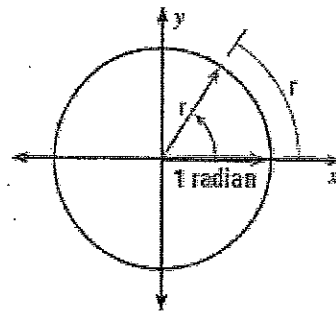
How do you convert from degrees to radians?

57°

90°
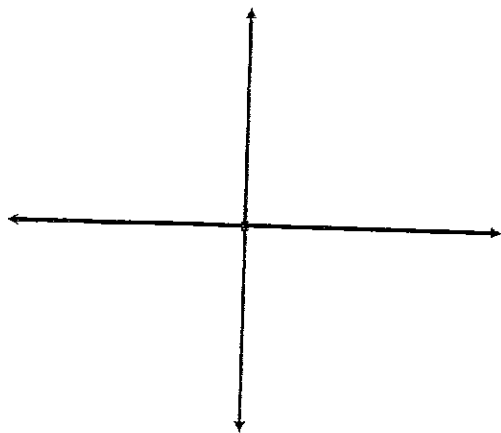

330°

How do you convert from radians to degrees?

$\dfrac{7\pi}{4}$

$\dfrac{11\pi}{6}$

3

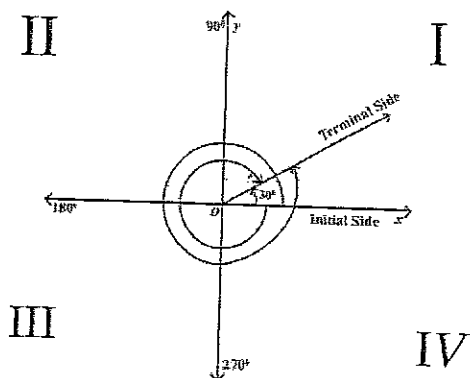standard position-

positive-

negative-

coterminal-

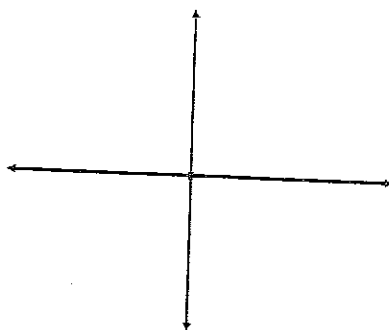II

I

Find the measure of
the two coterminal
angles

90° y

Terminal Side

30°

180°   O   Initial Side   x

270°

III

IV

90° y

Terminal Side

-305°

180°   O   Initial Side   x

270°
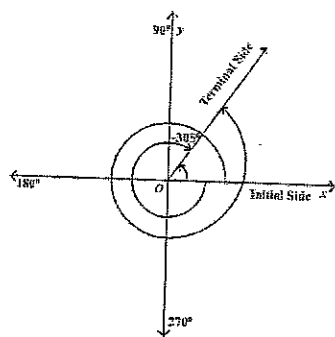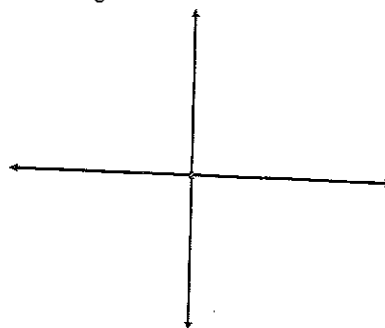
Sketch the following angles in standard position.

200° $\dfrac{-\pi}{6}$

Find a positive and negative coterminal
angle for each given angle.

$130°$ $450°$ $-200°$

$\dfrac{3\pi}{4}$ $\dfrac{-12\pi}{5}$ $\dfrac{10\pi}{12}$

Solve the following triangle.