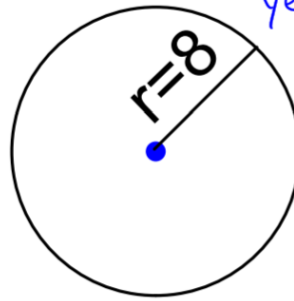


WARM - UP

Circle Properties

Are the following shapes similar?

Yes they are similar.



How do you know?

Similar figures are the same shape, but have proportional sides.
All circles have the same shape with proportional sides

Goals For Today

Circle Properties

- Review Circle Vocabulary
- Learn new Circle vocabulary
- Apply vocabulary to problem solving.

- circle** - the set of all points equidistant from a given point called the center.
- diameter** - a segment from a point on a circle, through center to another point on the circle.
- radius** - a segment from the center to a point on the circle.
- Secant** - A line that intersects a circle at two points
- Tangent** - A line that contacts a circle at only one point. Perpendicular to radius.
- Chord** - A line that links two points on a circle

- Central Angle** - an angle with a vertex at the center of the circle.
- arc measure** - degrees of a given portion of a circle. (Equal to central angle that forms it.)
- minor arc** - arc with a measure between 0° and 180° , $0^\circ < \theta < 180^\circ$
- Semicircle** - Half of a circle, arc measure = 180°
- major arc** - arc with a measure between 180° and 360° , $180^\circ < \theta < 360^\circ$
- circumference** - the perimeter of a circle, $C=2\pi r$
- area of a circle** - the two dimensional space a circle covers, $A_{\text{circle}} = \pi r^2$

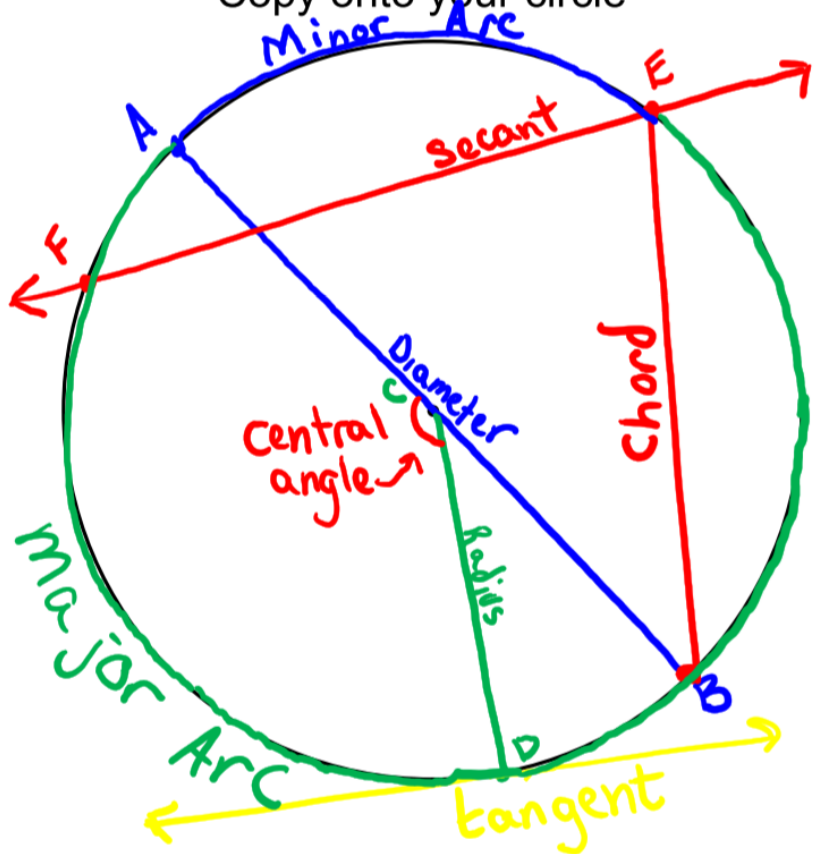
Copy onto your circle

Minor Arc

\overline{AE}

Major Arc

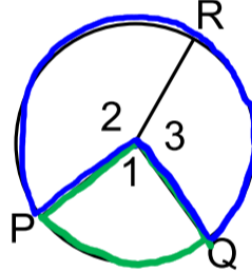
\overline{ABE}



Circles Properties

Ex. 1 Name the arc created by central angle 1.

\widehat{PQ}



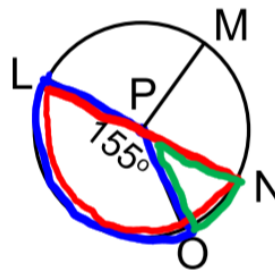
Ex. 2 Name the major arc created by central angle 1.

\widehat{PRQ}

Ex. 3 What is the $m\widehat{LO}$?

$m\widehat{LO} = 155^\circ$

Circles Properties



Ex. 4 What is the $m\widehat{LON}$?

$m\widehat{LON} = 180^\circ$

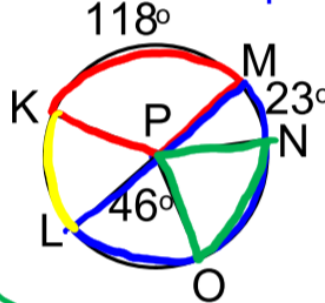
Ex. 5 What is the $m\widehat{ON}$?

$180 - 155 = 25^\circ$

Ex. 6 What is the $m\angle KPM$?

$m\angle KPM = 118^\circ$

Circles Properties



Ex. 7 What is the $m\angle LPM$?

$m\angle LPM = 180^\circ$

Ex. 8 What is the $m\angle NPO$?

$23 + m\angle NPO + 46 = 180$

Ex. 9 What is $m\widehat{LK}$?

$m\widehat{LK} + 118 = 180^\circ$

$m\widehat{LK} = 62^\circ$

$m\angle NPO + 69 = 180$
 $m\angle NPO = 111$

Review:

1. Name a minor arc and a major arc from the circle shown.

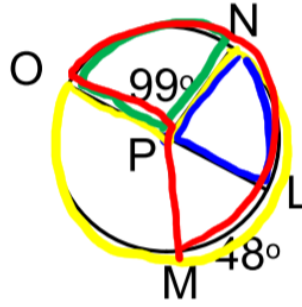
minor
NO

major
NLO

2. What is $m\widehat{NL}$?

$$180 - 99 = 91^\circ$$

3. What is the $m\widehat{MNO}$?



$$180 + 48 = 228^\circ$$

