NOTES 10.2 – ARCS, SEMICIRCLES, & CENTRAL ANGLES

CENTRAL ANGLE:
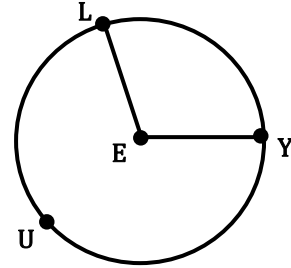
THEOREM: SUM OF CENTRAL ANGLES
The sum of the measures of the central angles of a circle with no interior points in common is 360°.

EXAMPLE 1: Name the following.

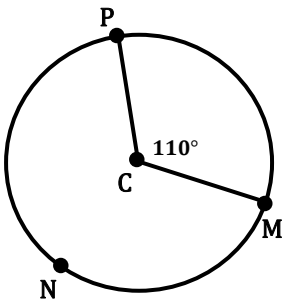**The central angle:**_____

The two arcs:_____

MINOR ARC:

MAJOR ARC:

Arcs are measured by their corresponding central angles.

EXAMPLE 2:

- $m\angle PCM = $ _____
- $m\overset{\frown}{PM} = $ _____
- $m\overset{\frown}{PNM} = $ _____
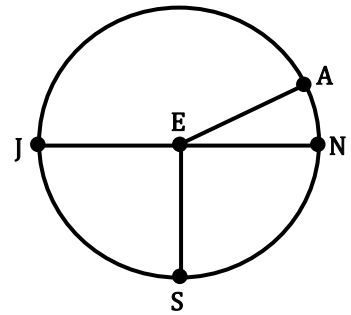- What kind of arc is $\overset{\frown}{PM}$? How do you know?_____

SEMICIRCLES:

EXAMPLE 3: In $circle$ E, $m\angle AEN = 18°$, $\overline{JN}$ is a diameter, and $m\angle JES = 90°$. Find each measure.

a) $m \overset{\frown}{AN} =$ _____

b) $m \overset{\frown}{JA} =$ _____

c) $m \overset{\frown}{JAS} =$ _____

EXAMPLE 4: $\overrightarrow{FD}$ is a tangent to $circle$ O. Based on the angle measures
given, find the measure of each of the following.

a) $m \overset{\frown}{AB} =$ _____

b) $m \overset{\frown}{AD} =$ _____

c) $m \overset{\frown}{AC} =$ _____

d) $m \overset{\frown}{BC} =$ _____

e) $m \overset{\frown}{ADC} =$ _____

f) $m \overset{\frown}{ACD} =$ _____

g) $m \overset{\frown}{ED} =$ _____

h) $m \overset{\frown}{AE} =$ _____

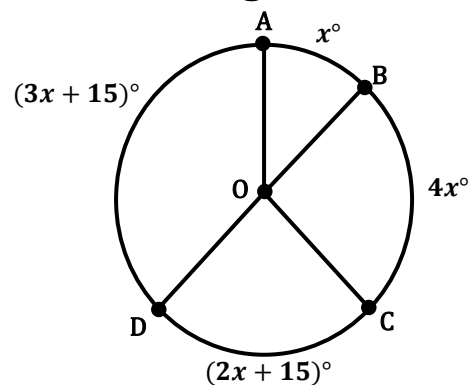i) $m\angle DOF =$ _____

j) $m\angle EOA =$ _____
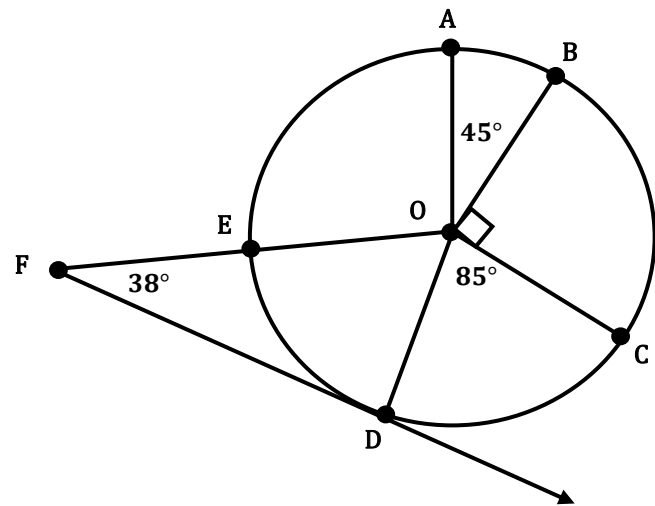
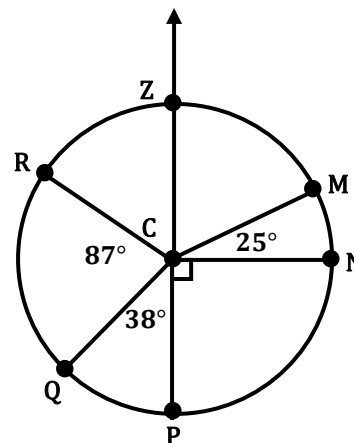**EXAMPLE 5:** Find the measure of each of the following.

a) $m\angle AOB =$ _____

b) $m\angle BOC =$ _____

c) $m\angle COD =$ _____

d) $m\angle AOD =$ _____

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EXAMPLE 6: Find the measure of each arc in $circle$ C and classify it. In the figure $\overline{PZ}$ is a diameter.

a) $m\,\overset{\frown}{PN} =$ _____; _____

b) $m\,\overset{\frown}{ZQP} =$ _____; _____

c) $m\,\overset{\frown}{RZ} =$ _____; _____

d) $m\,\overset{\frown}{ZMP} =$ _____; _____

e) $m\,\overset{\frown}{RM} =$ _____; _____

f) $m\,\overset{\frown}{NQP} =$ _____; _____

g) $m\,\overset{\frown}{QN} =$ _____; _____

h) $m\,\overset{\frown}{RP} =$ _____; _____

EXAMPLE 7: Find the indicated measures.

$x =$ _____

$m\angle AEB =$ _____

$m\angle BEC =$ _____

$m\angle CED =$ _____

$m\angle DEA =$ _____