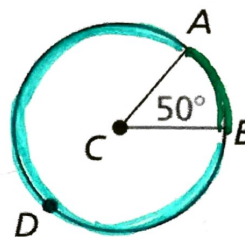


Core Concept Naming Arcs and Finding their Measures

A central angle is an angle whose vertex is at the center of a circle. $\angle C$ is a central angle.



The name of the shorter curve between A and B is minor arc AB which is written as \widehat{AB} .

The longer curve between A and B (that passes through D) is a major arc and it is written as \widehat{ADB} . It always takes three points to name a major arc.

The measure of an arc is equal to the measure of its central angle.

$$m\widehat{AB} = 50^\circ \quad m\widehat{ADB} = 310^\circ$$

$$360^\circ - 50^\circ = 310^\circ$$

If an arc is a semicircle then its measure is 180°

1) $\odot P$ has diameter \overline{RT} .

a) \widehat{RS} is minor arc.

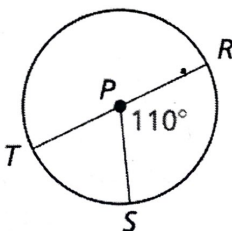
b) \widehat{RTS} is major arc.

c) $m\widehat{RS} = 110^\circ$

d) $m\widehat{TS} = 80^\circ$

e) $m\widehat{RTS} = 160^\circ$

f) $m\widehat{RST} = 180^\circ$ so \widehat{RST} is a semicircle.



2) Find each measure.

a) $m\widehat{GE} = 120^\circ$

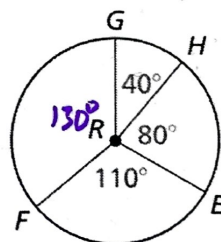
b) $m\widehat{GEF} = 230^\circ$

c) $m\widehat{GF} = 130^\circ$

d) $m\widehat{GFE} = 240^\circ$

e) $m\widehat{HF} = 170^\circ$ * careful!

↑ minor arc.



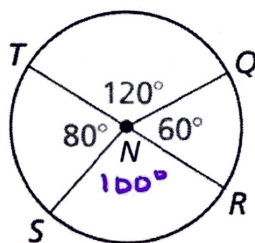
3) $\odot N$ is given.

a) Name a semicircle: \widehat{TQR} or \widehat{TSR}

b) $m\widehat{SR} = 100^\circ$

c) $\widehat{QTS} = 200^\circ$

d) $\widehat{RTS} = 260^\circ$



4) Graph: $(x+3)^2 + (y-1)^2 = 4$

Center:

$(-3, 1)$

Radius:

2

