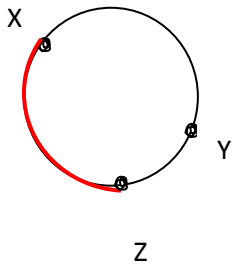
Geometry
Unit: Circles
Section: Special Angles and Arcs in Circles

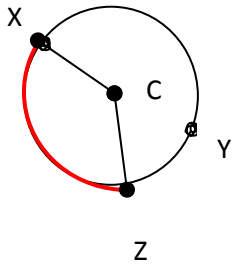
Review Worksheet KEY

1) If major arc XYZ measures 201°, what is the measure of arc XZ?



$m\overset{\frown}{XZ} = 360 - m\overset{\frown}{XYZ} = 360 - 201 = 159^\circ$

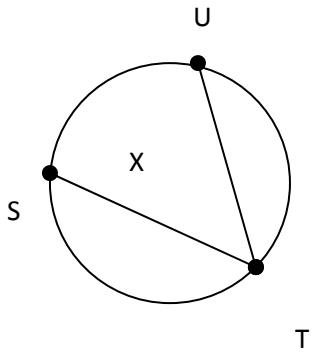
2) If major arc XYZ measures 198° and angle XCZ measures (2a – 10)°, what is the value of a?



$m\overset{\frown}{XZ} = 360 - m\overset{\frown}{XYZ} = 360 - 198 = 162^\circ$

$m\angle XCZ = m\overset{\frown}{XZ}$
$2a - 10 = 162$
$2a = 172$
$a = 86$

3) Find the value of b in the figure below. The $m\overset{\frown}{SU}$ = (10b + 6)° and the $m\angle T$ = (3b + 8)°.



$m\angle T = \frac{1}{2} m\overset{\frown}{SU}$

$3b + 8 = \frac{1}{2}(10b + 6)$

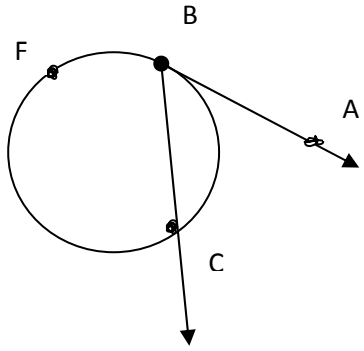
$3b + 8 = 5b + 3$

$3b + 5 = 5b$

$5 = 2b$

$2.5 = b$

4) Find the measure of angle ABC.



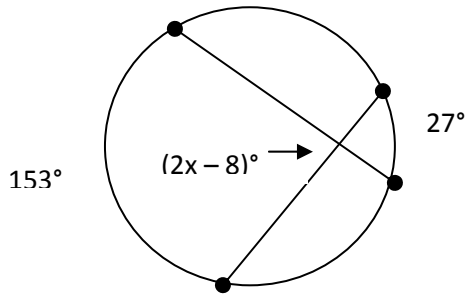
$m\overset{\frown}{BFC} = 232^\circ$

$m\overset{\frown}{BC} = 360 - m\overset{\frown}{BFC}$

$m\overset{\frown}{BC} = 360 - 232 = 128^\circ$

$m\angle ABC = \frac{1}{2} m\overset{\frown}{BC} = \frac{1}{2}(128) = 64^\circ$

5) Find the value of x in the figure below.



$2x - 8 = \frac{1}{2}(153 + 27)$

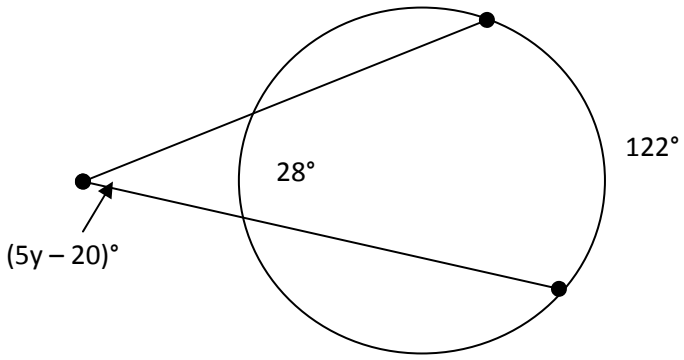
$2x - 8 = \frac{1}{2}(180)$

$2x - 8 = 90$

$2x = 98$

$x = 49$

6) Find the value of y in the figure below.



$5y - 20 = \frac{1}{2}(122 - 28)$

$5y - 20 = \frac{1}{2}(94)$

$5y - 20 = 47$

$5y = 67$

$y = 13.4$