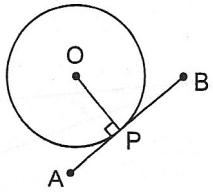
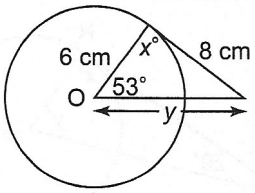
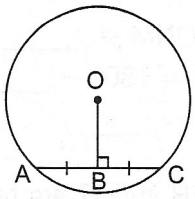
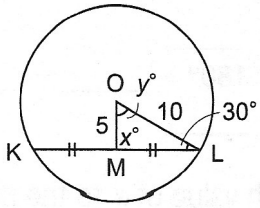
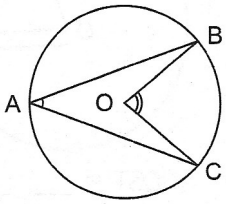
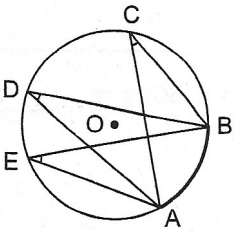
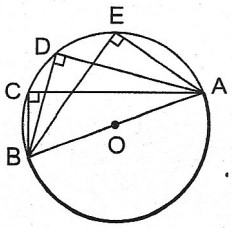
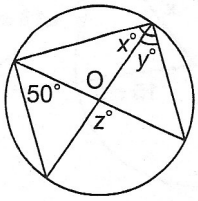
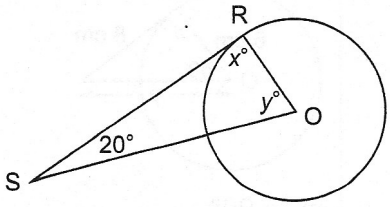
# Unit 8 Study Guide

| Skill | Description | Example |
|---|---|---|
| Recognize and apply tangent properties |  <br>$\angle APO = \angle BPO = 90°$ |  <br>$x° = 90°$ |
| Recognize and apply chord properties in circles |  <br>If $OB \perp AC$, then $AB = CB$.<br>If $AB = CB$, then $OB \perp AC$. |  <br>$x° = 90°$ and $y° = 60°$<br>$ML^2 = 10^2 - 5^2$ |
| Recognize and apply angle properties in a circle | • Inscribed and central angles<br>  <br>$\angle BOC = 2\angle BAC$, or<br>$\angle BAC = \frac{1}{2}\angle BOC$<br>• Inscribed angles<br>  <br>$\angle ACB = \angle ADB = \angle AEB$<br>• Angles on a semicircle<br>  <br>$\angle ACB = \angle ADB = \angle AEB = 90°$ |  <br>$x° = 90°$<br>$y° = 50°$<br>$z° = 100°$ |

# Unit 8 Review

**8.1** **1.** Find each value of $x°$ and $y°$. Segments RS and MN are tangents.

**a)**

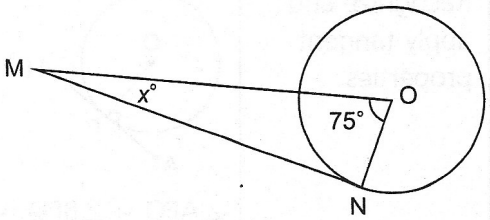



$x° =$ _____

$y° = 180° -$ _____ $-$ _____

$=$ _____

**b)**



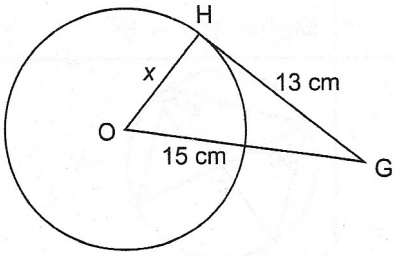

$\angle ONM =$ _____

$x° = 180° -$ _____ $-$ _____

$=$ _____

**2.** Find each value of $x$ to the nearest tenth. Segments GH and ST are tangents.

**a)**




$\angle OHG =$ _____

_____ $= x^2 +$ _____

_____

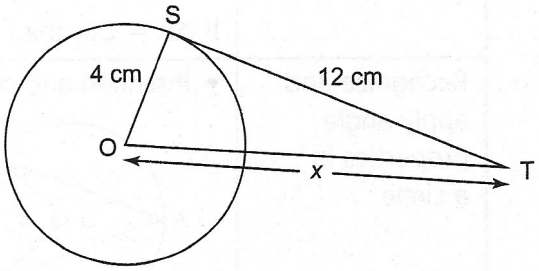
_____

_____

_____

So, $x \doteq$ _____ cm

**b)**




$\angle OST =$ _____

_____

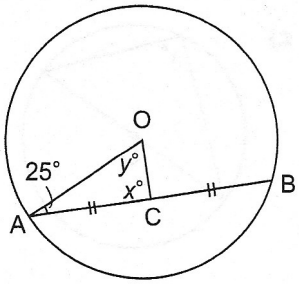
_____

_____

_____

So, $x \doteq$ _____ cm

**8.2** **3.** Find the values of $x°$ and $y°$.



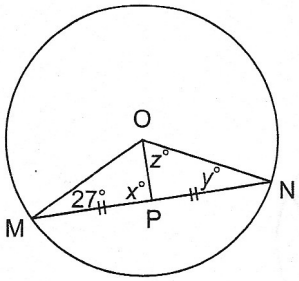

$x° =$ _____ By the chord properties

$y° =$ _____ − _____ − _____ By the angle sum property

_____

$y° =$ _____

**4.** Find the values of $x°$, $y°$, and $z°$.




$x° =$ _____ By the _____

OM = ON, so △_____ is isosceles.

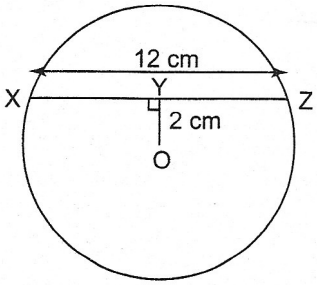
∠ONP = ∠OMP

So, $y° =$ _____

$z° =$ _____ − _____ − _____ _____

$z° =$ _____

**5.** Find the length of the radius of the circle to the nearest tenth.




$XY = \frac{1}{2} \times$ _____

$= \frac{1}{2} \times$ _____ cm

$=$ _____ cm

Draw radius OX.

$OX^2 =$ _____ $+ XY^2$

$OX^2 =$ _____ + _____

_____

_____

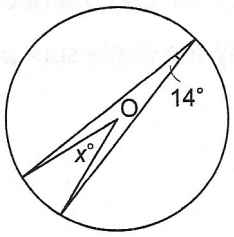
_____

$OX \doteq$ _____

The radius is about _____ cm.

**8.3** **6.** Find each value of $x°$.

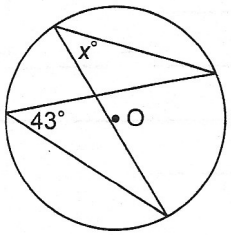
**a)**




$x° = 2 \times$ _____

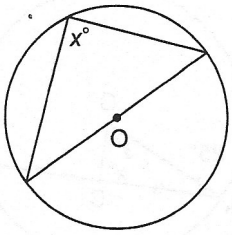
$x° =$ _____

**b)**




$x° =$ _____

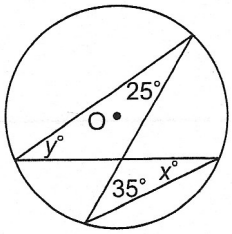
**c)**




$x° =$ _____

**7.** Find each value of $x°$ and $y°$.

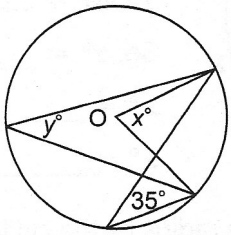
**a)**




$x° =$ _____

$y° =$ _____

**b)**

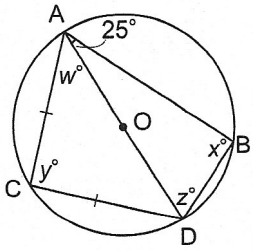



$x° = 2 \times$ _____

$=$ _____

$y° =$ _____

**8.** Find the value of $w°$, $x°$, $y°$, and $z°$.




$x° = y° =$ _____

$z° =$ _____ $-$ _____ $-$ _____ By the angle sum property

_____

$z° =$ _____

$\triangle ACD$ is _____. So, $\angle CDA = \angle CAD = w°$

$w° + w° =$ _____ $-$ _____ By the angle sum in $\triangle ACD$

$2w° =$ _____

$w° = \frac{\_\_\_}{2}$

$w° =$ _____