

Review

1. Identify the radius.

OS or SO

2. Identify the tangent.

TR, RT

3. Identify the point of tangency.

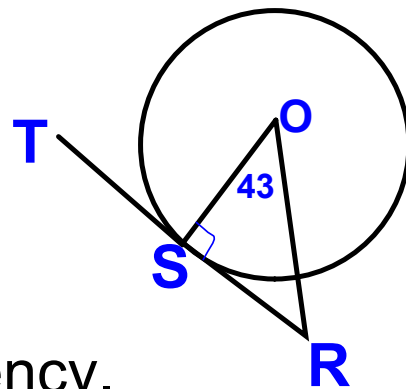
S

4. List the three angles found in Triangle SOR.

$\angle SOR$ $\angle ORS$ $\angle RSO$

5. Find the value of each angle in #4.

$$\begin{array}{r}
 \angle SOR = 43^\circ \\
 \angle ORS = 47^\circ \leftarrow \\
 \angle RSO = 90^\circ \\
 \hline
 180
 \end{array}$$

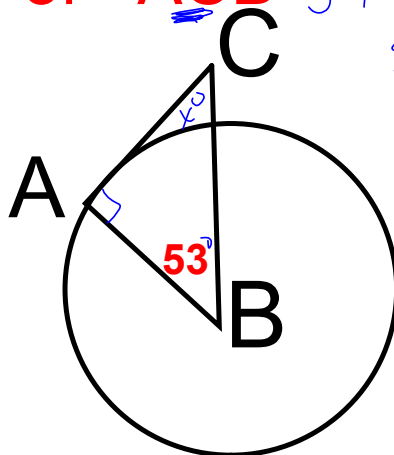


Warm-Up

May 15, 2017

a) Find the value of $\angle ABC = 53^\circ$ $\triangle ABC$

b) Find the value of $\angle ACB = 37^\circ$
 $53^\circ + 90^\circ + 37^\circ = 180^\circ$

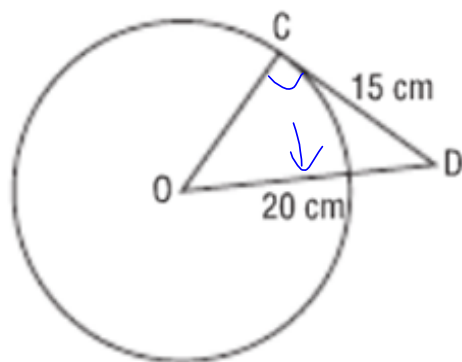


$\angle BAC$

c. Identify the tangent CA or AC

Determine the length of OC to the nearest tenth.

$$c^2 = a^2 + b^2$$



$\angle OCD$ or $\angle DCO$

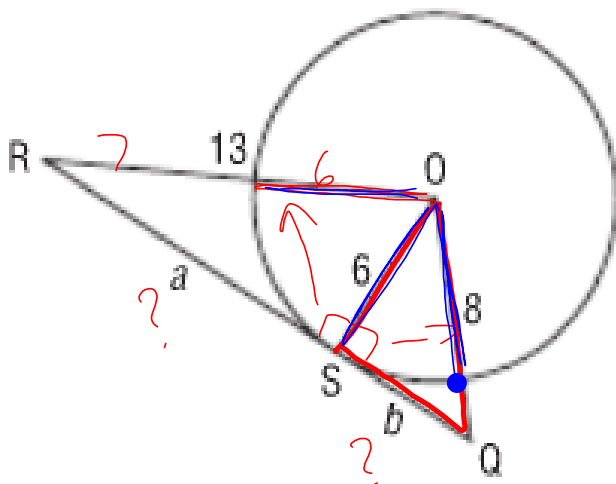
$$a^2 = c^2 - b^2$$

$$a^2 = 20^2 - 15^2$$

$$a^2 = 400 - 225$$

$$\sqrt{a^2} = \sqrt{175}$$

$$a = 13.2 \text{ cm}$$



Find RS and SQ

$$a^2 = c^2 - b^2$$

$$a^2 = 13^2 - b^2$$

$$a^2 = 169 - 3b$$

$$\sqrt{a^2} = \sqrt{169 - 3b}$$

$$a = 11.55$$

RS

$$a^2 = c^2 - b^2$$

$$a^2 = 8^2 - 6^2$$

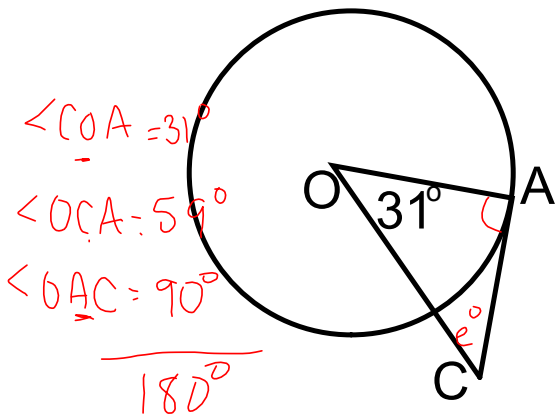
$$a^2 = 64 - 36$$

$$a^2 = 28$$

$$a = 5.3$$

$$SQ = 5.3$$

ANGLES



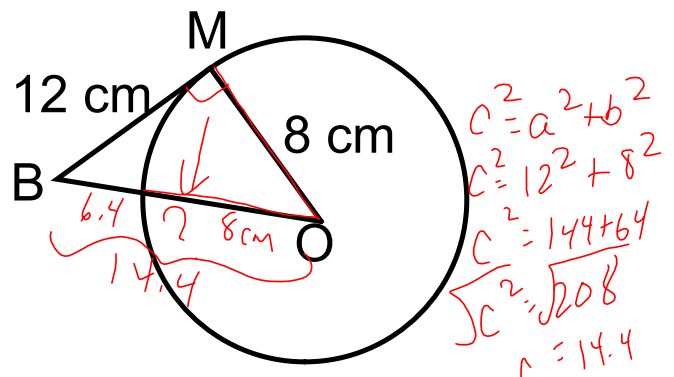
$\angle COA = 31^\circ$
 $\angle OCA = 59^\circ$
 $\angle BAC = 90^\circ$

180°

- A. Name and give the value for each angle.
- B. Name the radius *OA or AO*
- C. Name the Tangent *AC*

CA

SIDES



$c^2 = a^2 + b^2$
 $c^2 = 12^2 + 8^2$
 $c^2 = 144 + 64$
 $\sqrt{c^2} = \sqrt{208}$
 $c = 14.4$

- A. Find the value of BO
- B. What is the value of the radius? *8 cm*
- C. What is the distance from the outside of the circle to B?

Summary of Radius-Tangent Properties

One of the two will be used to solve questions involving a tangent and radius

1. Finding an unknown angle:

The sum of the angles in a triangle is 180°

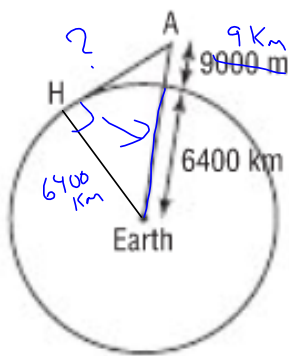
$$\text{Given angle} + 90^\circ + \underline{\hspace{2cm}} = 180^\circ$$

2. Finding an unknown side of a Right Triangle

Pythagorean Theorem

$$c^2 = a^2 + b^2$$

An airplane, A, is cruising at an altitude of 9000 m. A cross section of Earth is a circle with radius approximately 6400 km. A passenger wonders how far she is from a point H on the horizon she sees outside the window. Calculate this distance to the nearest kilometre.



$$a^2 = c^2 - b^2$$

$$a^2 = 6409^2 - 6400^2$$

$$a^2 = 41075281 - 40960000$$

$$\sqrt{a^2} = \sqrt{115201}$$

$$a = 339,4 \text{ km}$$



Homework/Classwork



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3, 4, 5, 6, 7

8,12,13,17

*****NAME ALL ANGLES USING THREE LETTERS!!!!!!!!!!!!!!**

