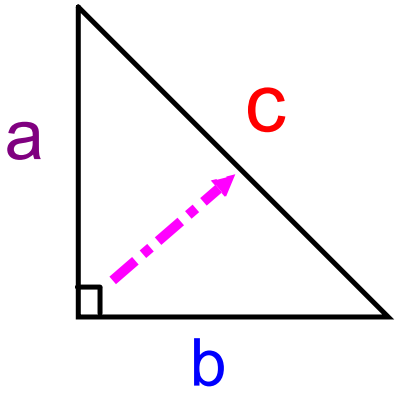
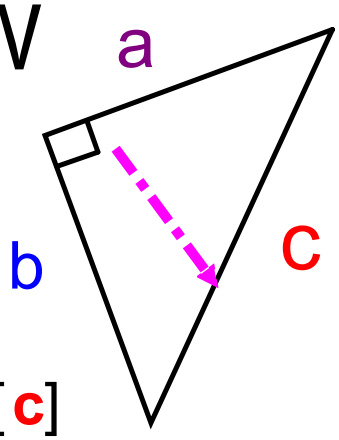
Unit 8
Circle Geometry

REVIEW





Hypotenuse [**c**]

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

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

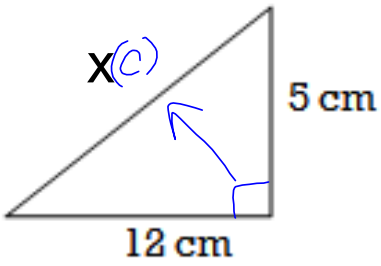
*the longest side
*opposite the right angle

Find the measurement of the unknown side.

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

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

- Draw an arrow to the hypotenuse.



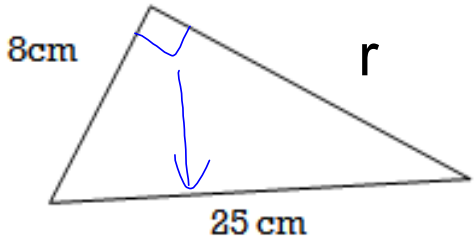
$c^2 = a^2 + b^2$

$c^2 = 12^2 + 5^2$

$c^2 = 144 + 25$

$\sqrt{c^2} = \sqrt{169}$

$c = 13$



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

$a^2 = 25^2 - 8^2$

$a^2 = 625 - 64$

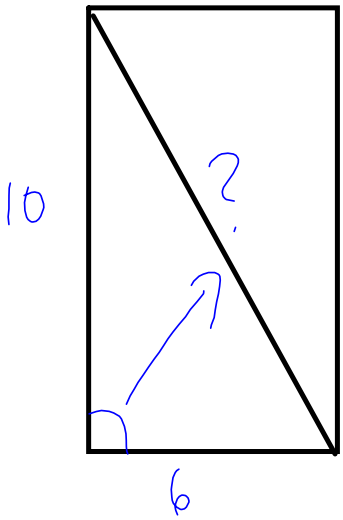
$\sqrt{a^2} = \sqrt{561}$

$a = 23.7\text{ cm}$

A rectangle has base 6 and height 10.

What is the length of the diagonal?

[hypotenuse]



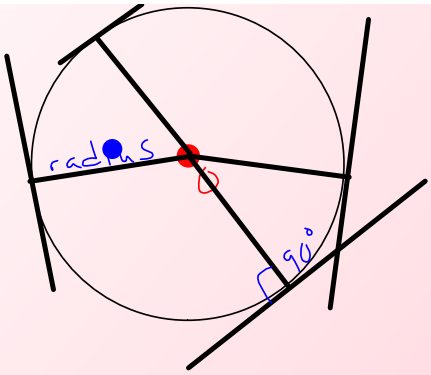
$c^2 = a^2 + b^2$

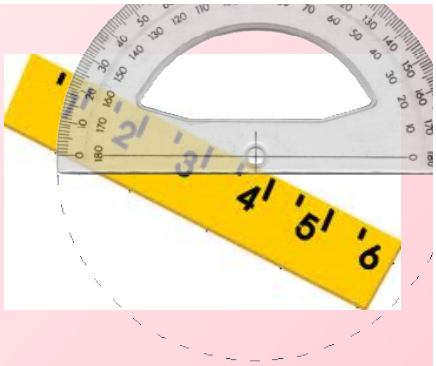
$c^2 = 6^2 + 10^2$

$c^2 = 36 + 100$

$\sqrt{c^2} = \sqrt{136}$

$c = 11.7$





1. Label the center "O"
2. Draw a radius that touches the circle only at the endpoint of the radius.
3. Draw a line to touch the radius and passes on the outside of the circle
4. Repeat steps 2-3 THREE times
5. Measure the angle between the radius and the line.

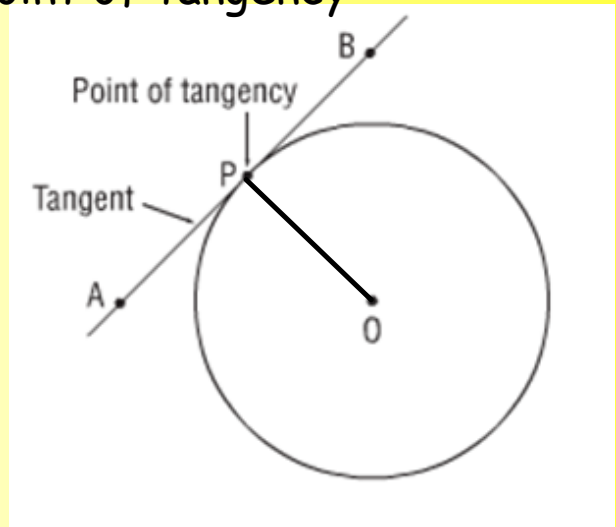
Tangent To A Circle

* A line that intersects a circle at only ONE POINT is a tangent to the circle

*The point where the tangent intersects the circle is the point of tangency.

*Line AB is a TANGENT to the circle with center O

Point P is the point of tangency



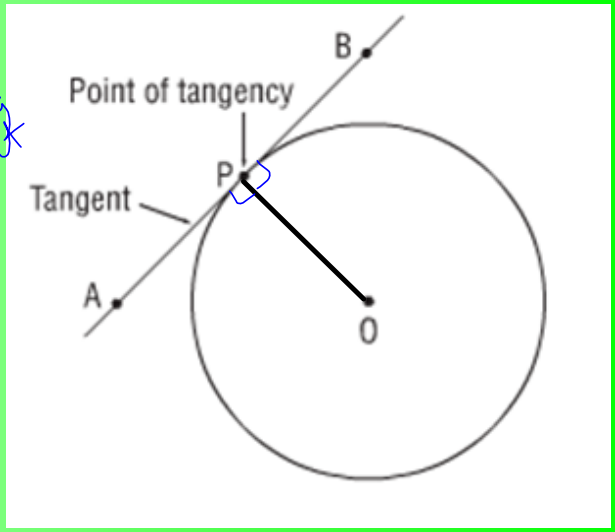
Tangent-Radius Property

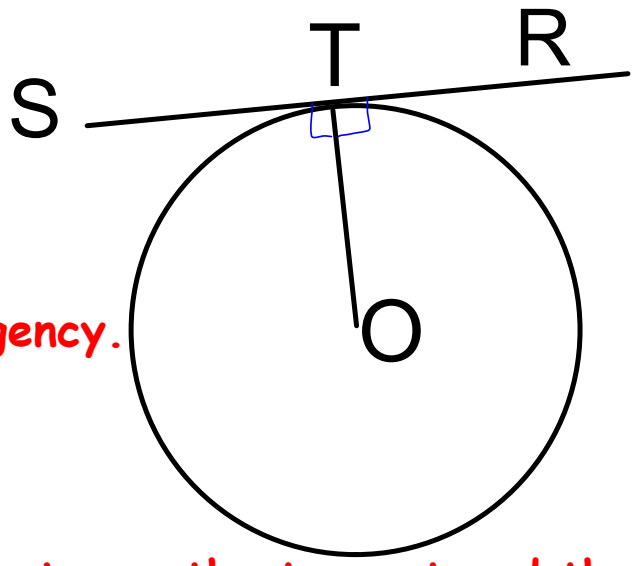
*A tangent to a circle is perpendicular to the radius at the point of tangency.

* $\angle APO = \angle BPO = 90^\circ$

middle letter = the angle you are talking about

* use three letters when naming an angle!





1. Identify the radius.

OT, TO

2. Identify the point of tangency.

T

3. Name the tangent

SR or RS

4. What is the relationship between the tangent and the radius? Where the tangent and the radius meet they form a 90° angle

5. Name the 90° angle

∠STO or ∠OTS } ∠RTO or ∠OTR

In triangle OAB, <AOB = 63

Remember: sum angles of triangle is 180°!!!

1. Find the measure of **<OBA** 27°

$63 + 90^\circ + 27 = 180^\circ$

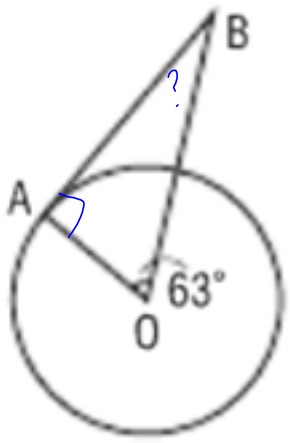
2. Tangent: AB or BA

3. List the three angles:

$\angle OBA$ or $\angle ABO$

$\angle BAO$ or $\angle OAB$

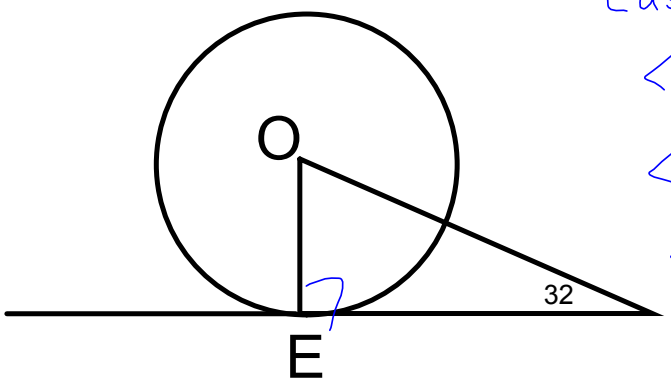
$\angle AOB$ or $\angle BOA$



Name the radius:

Name and identify all angles in Triangle EOF

ΔEOF



List the angles: [using 3 letters]	measurement
$\angle FEO$	90°
$\angle FOE$	58°
$\angle EFO$	32°
	180°