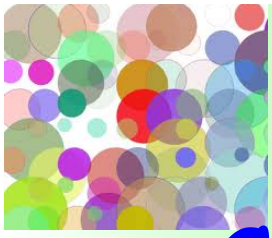
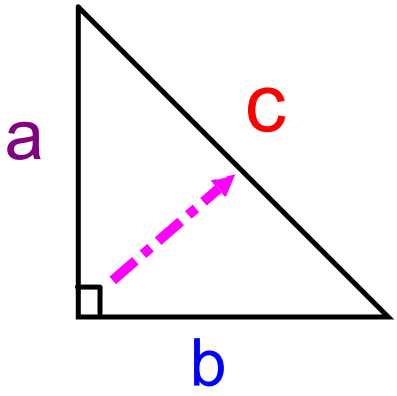
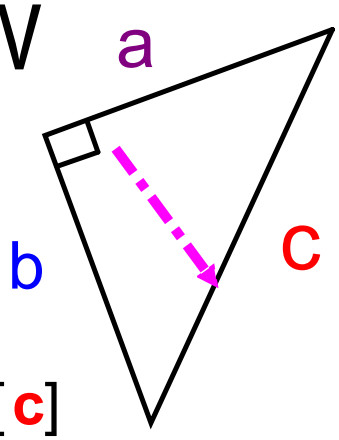


Unit 8
Circle Geometry

REVIEW





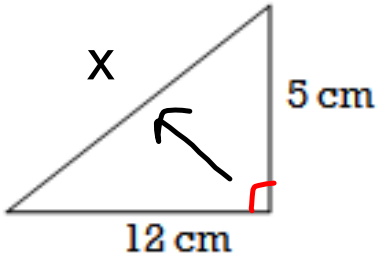
Hypotenuse [**c**]

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

*the longest side
*opposite the right angle

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

- Find the measurement of the unknown side.
- Draw an arrow to the hypotenuse.



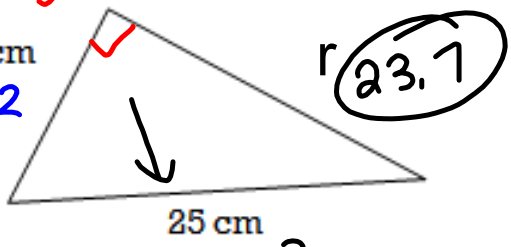
$c^2 = a^2 + b^2$

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

$c^2 = 144 + 25$

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

$c = 13$



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

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

$25^2 = a^2 + 8^2$

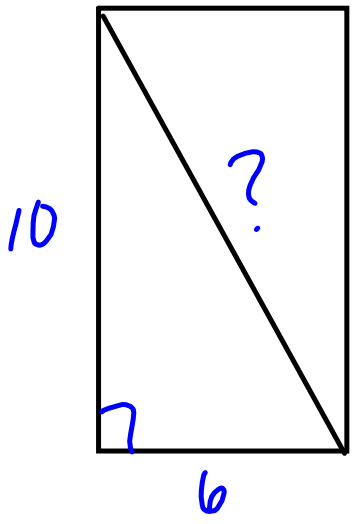
$625 = a^2 + 64$

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

$a = 23.7$

A rectangle has base 6 and height 10.

What is the length of the diagonal?



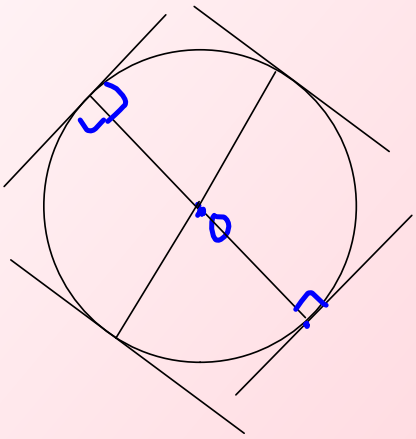
$c^2 = a^2 + b^2$

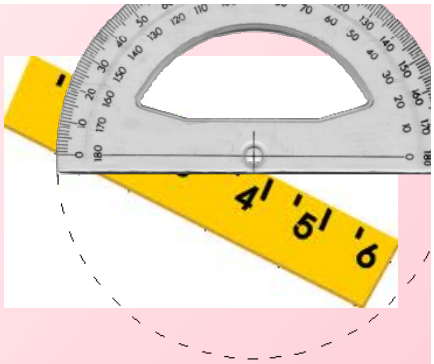
$c^2 = 10^2 + 6^2$

$c^2 = 100 + 36$

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

$c \approx 11.7$



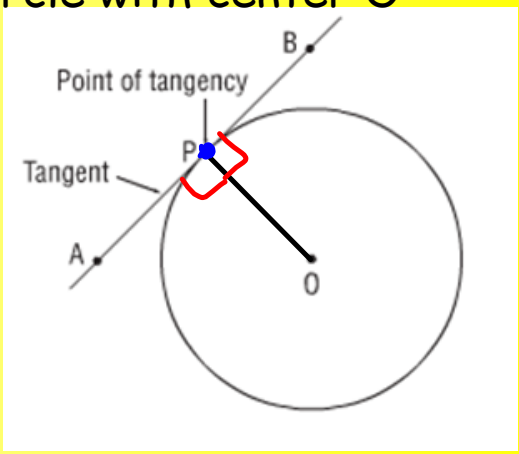


1. Label the center "O"
2. Draw a radius that touches the circle only at the endpoint of the radius.
3. Draw a line to touch the radius and passes on the outside of the circle
4. Repeat steps 2-3 THREE times
5. Measure the angle between theradius and the line.

* 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



a) Identify the radius
OP , PO

b) $\angle APO$ =
middle letter
identify's the angle $\angle APB = 180°$

c) $\angle BPO$

Tangent-Radius Property

90°

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

<APO = <BPO = 90°

* use three letters when naming an angle!

triangle

ΔABC

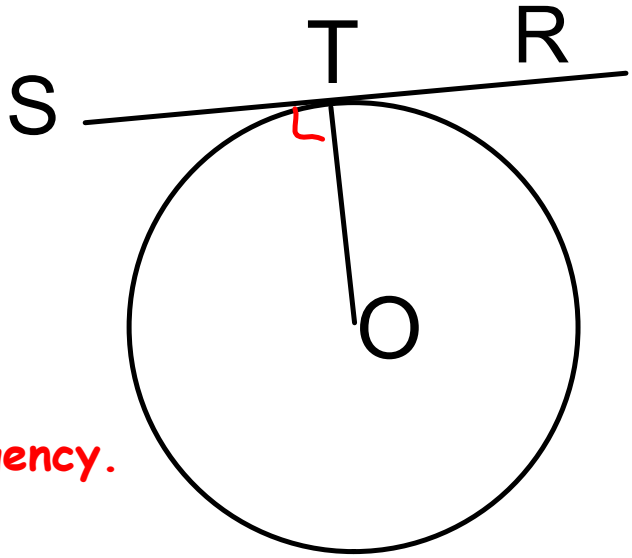
< ABC

angle

A

B

C



1. Identify the radius.

TO, OT

2. Identify the point of tangency.

T

3. Name the tangent

ST, SR, RS, RT, TR

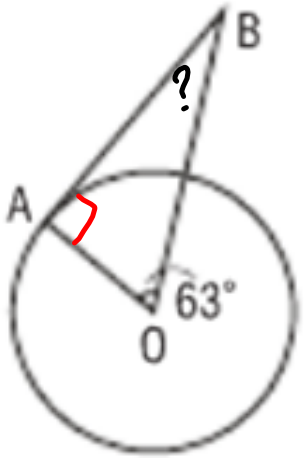
4. What is the relationship between the tangent and the radius? They form a 90° angle

5. Name two angles that equal 90°? ∠STO ∠RTO

In triangle OAB, <AOB = 63°

$\triangle OAB$

Find the measure of **<OBA** = 27°



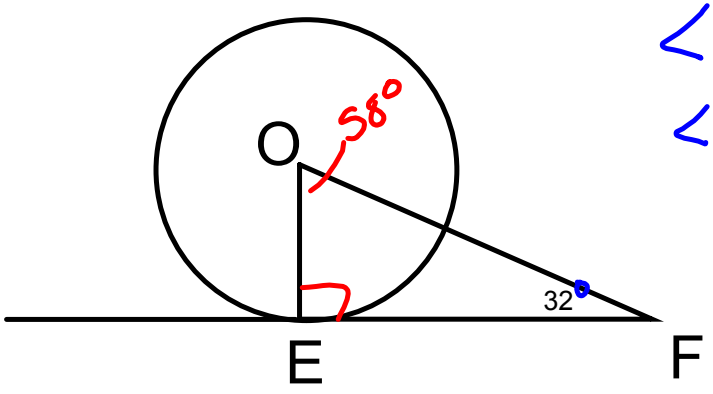
$27° + 90° + 63° = 180°$

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

a) Name the radius:

b) $\angle AOB = 63°$
$\angle ABO = 27°$
$\angle BAO = 90°$
$180°$

Name and identify all angles in ΔEOF



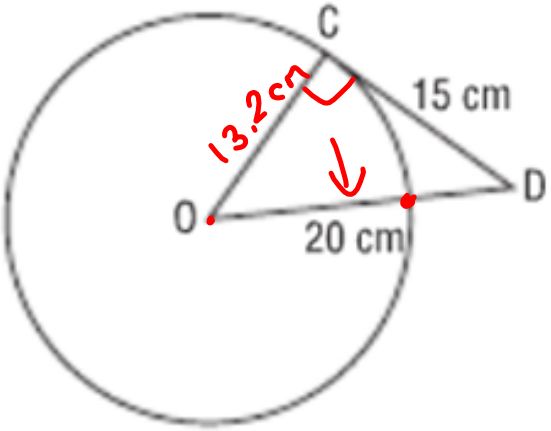
$\angle EOF = 58^\circ$

$\angle FEO = 90^\circ$

$\angle OFE = 32^\circ$

180°

Determine the length of OC to the nearest tenth.



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

$20^2 = a^2 + 15^2$

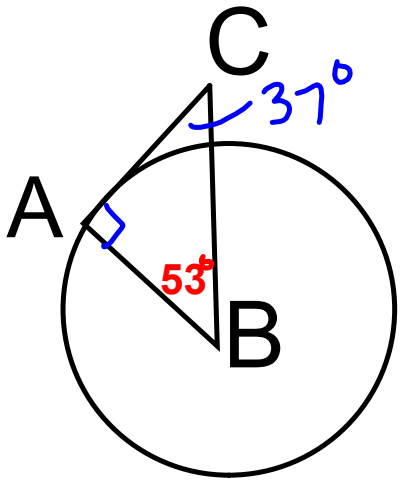
$400 = a^2 + 225$

$a^2 = 175$

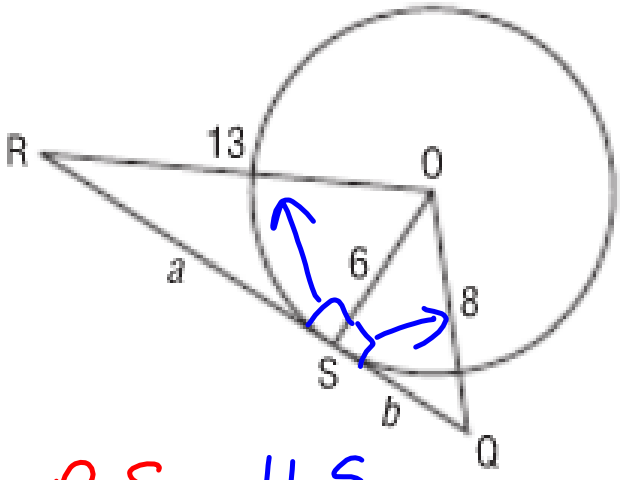
$a = 13.2$

a) Find the value of <ABC = 53°

b) Find the value of <ACB = 37°



c. Identify the tangent = AC or CA



Find RS and SQ

$RS = 11.5$

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

$13^2 = a^2 + 6^2$

$169 = a^2 + 36$

$a^2 = 133$

$a = 11.5$

$SQ = 5.3$

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

$8^2 = 6^2 + b^2$

$64 = 36 + b^2$

$b = 5.3$

Homework/Classwork

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3, 4, 5, 6 ← a, b, c

7,8,12,13,14, 17

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

SKETCH CIRCLES!!!