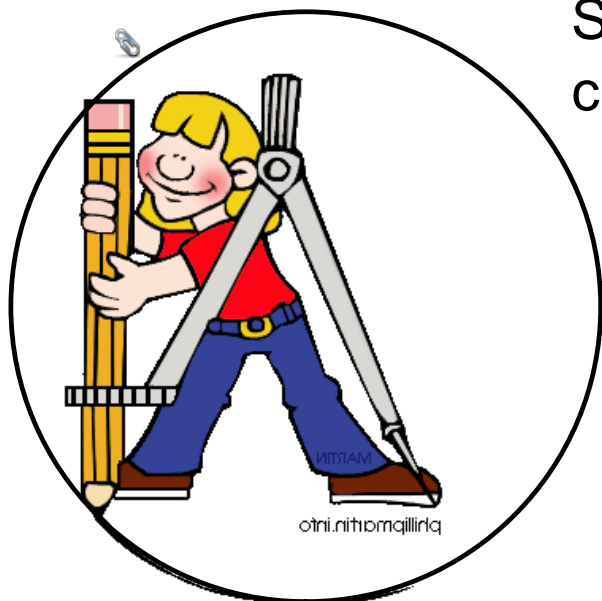


Circles.....

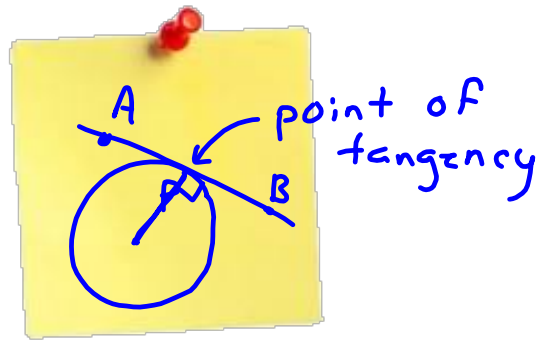
Solve problems using circle properties.



Things
I already know
about
circles.



Things
that are
NEW
to me.

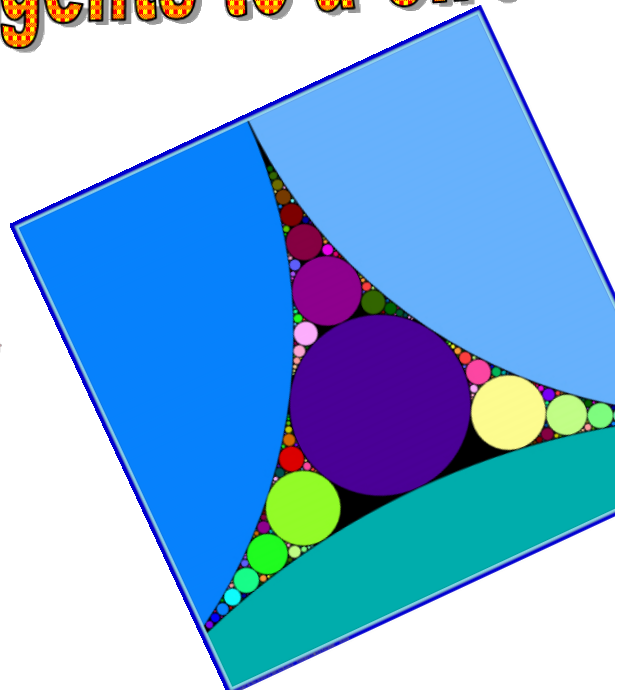
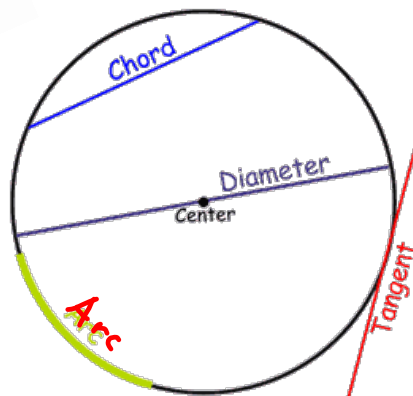


Check out pages 384 to 387,
if you find anything **new to you**,
write it on a sticky note.

"Key information"

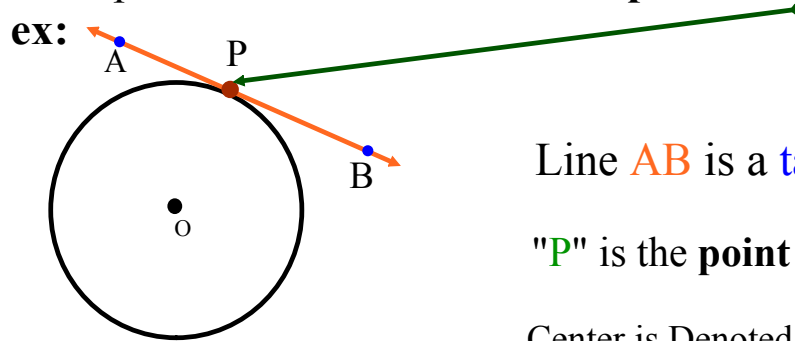
Section 8.7

Properties of Tangents to a Circle



Tangent Properties

- **tangent** - a line that touches a circle/curve at only 1 point.
- the point of contact is called the **point of tangency**.



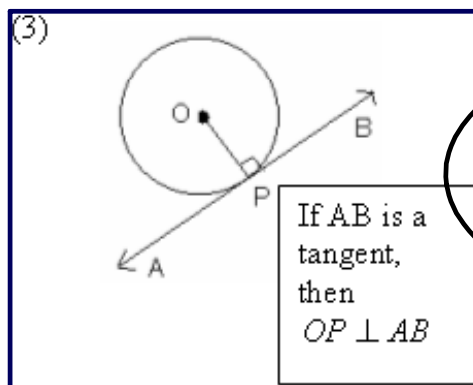
Line **AB** is a **tangent**

"**P**" is the **point of tangency**

Center is Denoted by "**O**"

Tangent Radius Property:

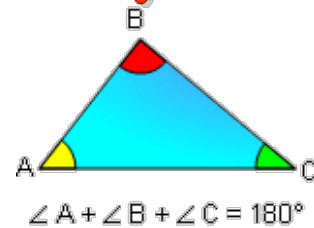
A tangent to a circle is perpendicular to the radius at the point of tangency. $\angle APO = \angle BPO = 90^\circ$



"Join O to B and you have formed a right triangle. Thus, you can use the Pythagorean Theorem to find side lengths." (OR Angle sum of triangle to find missing angles)

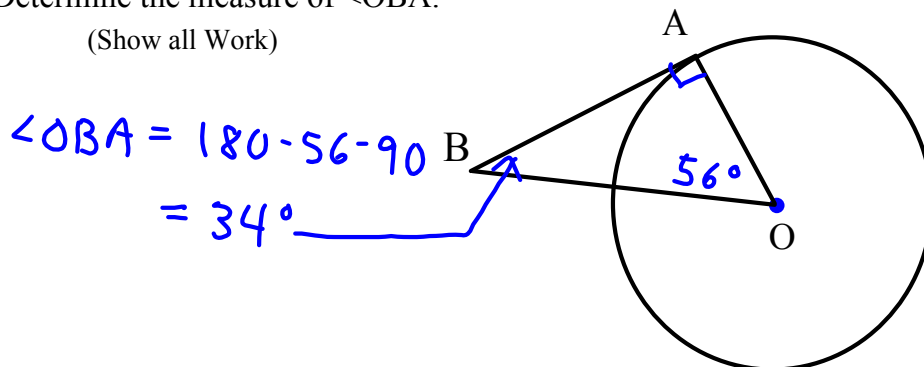
Determining the Measure of an Angle in a Triangle

Remember: Angles in a triangle add up to 180°



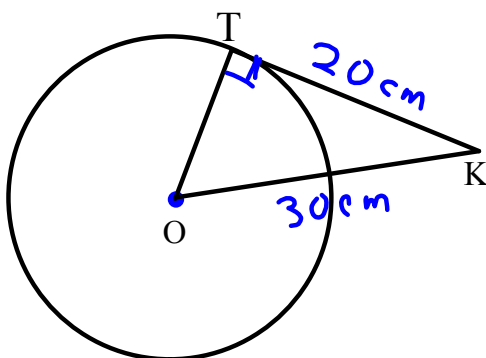
1) Point O is the centre of a circle and AB is a Tangent to the circle. In $\triangle OAB$, $\angle AOB = 56^\circ$. Determine the measure of $\angle OBA$.

(Show all Work)



Using the Pythagorean Theorem in a Circle

2) Point O is the center of a circle and TK is a tangent to the circle. TK is 20cm and OK = 30cm. Determine the length of the radius OT. Give the answer to the nearest tenth. (Show all Work)



$$\begin{aligned}
 b^2 &= c^2 - a^2 \\
 OT^2 &= 30^2 - 20^2 \\
 &= 900 - 400 \\
 &= 500 \\
 OT &= \sqrt{500} \\
 &= 22.4
 \end{aligned}$$

Remember:

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

$$c = \sqrt{a^2 + b^2}$$

or

$$a = \sqrt{c^2 - b^2}$$



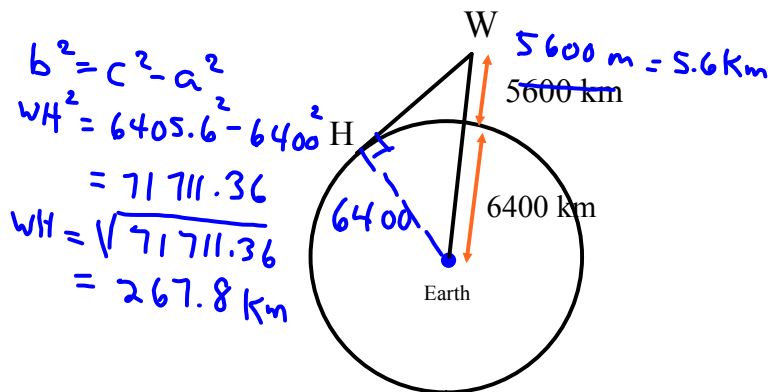
Answer: OT = 22.4 cm



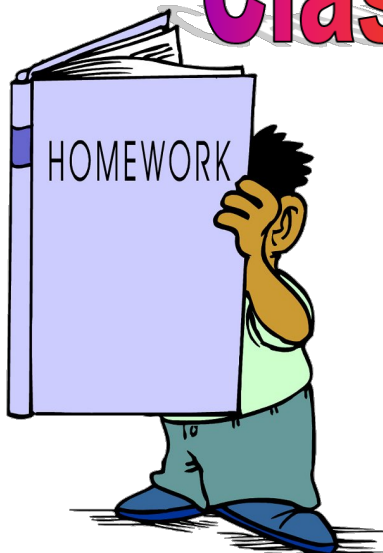
Solving Problems Using the Tangent and Radius Property



An airplane, W, is cruising at an altitude of 5600m. 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.



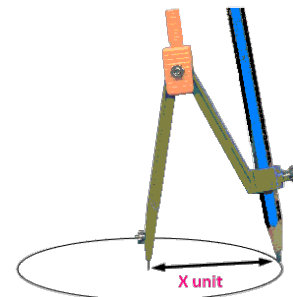
Class/Homework



Page 388-390

Day 1

- 3 ab
- 4a
- 5abc
- 6abc
- 7ab



Section 8.1 Sticky Note Activity.docx