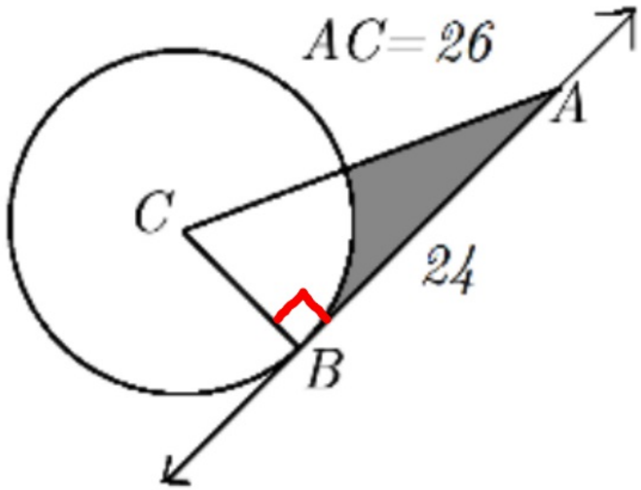
Good morning: attach warm up to notes and complete #1-4

AB is tangent to circle C at B

1. Find the length of CB
2. Find the measure of <C
3. Find the area of circle C
4. Find the area of the shaded region

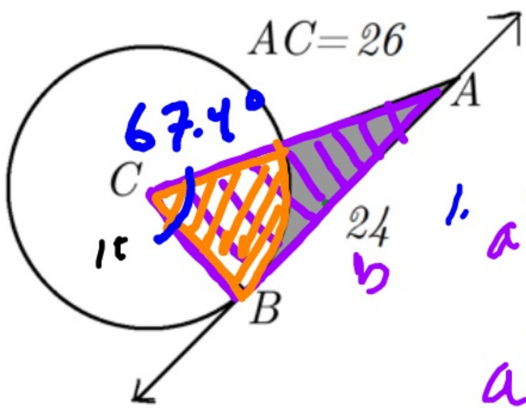


Reminders:

- tutoring offered tomorrow 4-5p
- retakes available in DS today and tomorrow

Colored pens/pencils will be useful today!

$\odot C$ with radius $\overline{CB}$. $\overleftrightarrow{AB}$ is tangent to $\odot C$ at B. Find each:



1. Length of $\overline{CB}$
2. Measure of $\angle C$
3. Area of $\odot C$
4. Area of shaded region

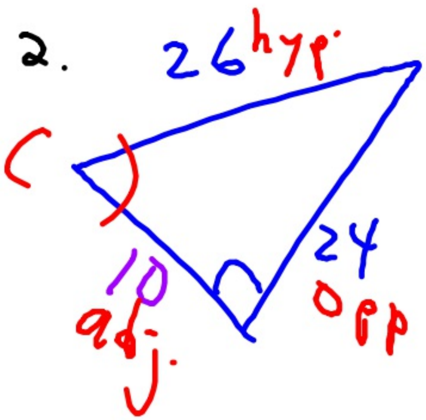
1. $a^2 + b^2 = 26^2$, with $b = 24$

$a^2 + 576 = 676$

$a^2 = 100$

$a = 10$

2.



$\tan C = \frac{24}{10}$

$\tan^{-1}(24/10) = C$

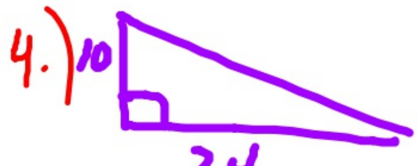
$\approx 67.3°$

3.) $A = \pi r^2$

$A = \pi \cdot 10^2$

$= 100\pi \approx 314.15$

4.)



$A = \frac{1}{2} \cdot (10)(24)$

120

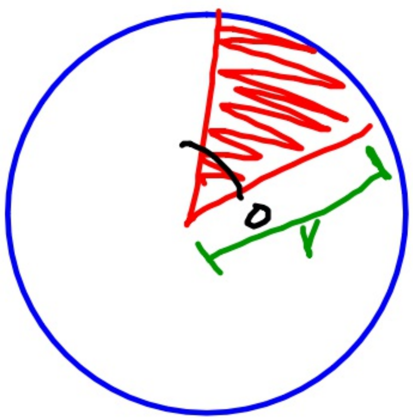
$\frac{360}{67.40} \approx 5.34$

$\frac{314.15}{5.34}$

$- 58.5$

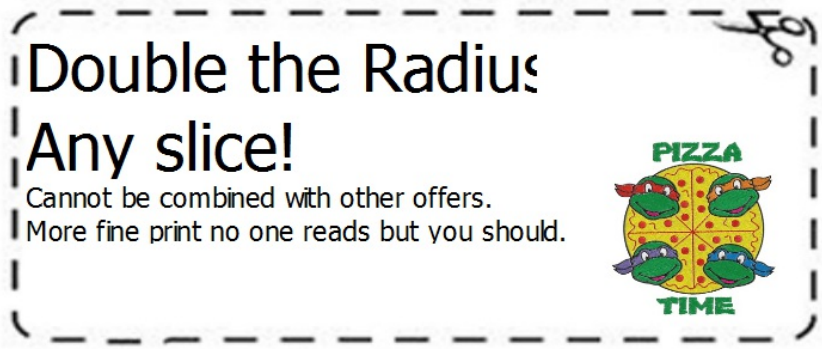
≈ 61.5

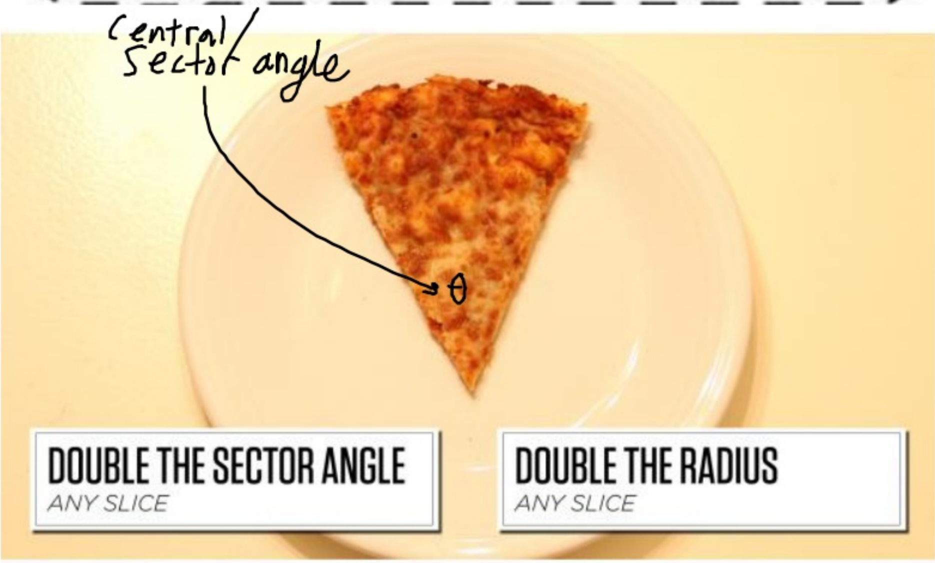
Sector Area Formula



$$A_S = \frac{\text{Central Angle}}{360^\circ} \cdot \pi r^2$$

Euclid's Pizza has two coupons available. Pizza rules. Which one should you use?





Create Your Own Pizza

Create your own Masterpiece! Start by selecting one of our hand-made crusts rolled daily in our restaurants; next pick a sauce and choose from over 20 toppings including premium meats and freshly sliced veggies. All of our pizzas include generous amounts of toppings, and our three cheese blend of Aged Cheddar, Provolone and Whole Milk Mozzarella is never frozen.

Sizes

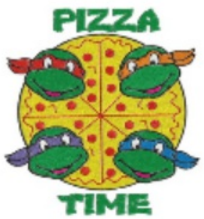
Personal	6.5" - 4 Slices
Small	9.5" - 6 Slices
Medium	12" - 8 Slices
Large	14" - 12 Slices
Extra Large*	16" - 16 Slices

Which coupon yields more pizza?

Double the Sector Angle

Any slice!

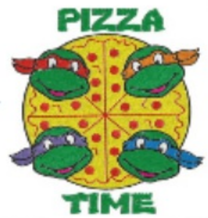
Cannot be combined with other offers.
More fine print no one reads but you should.



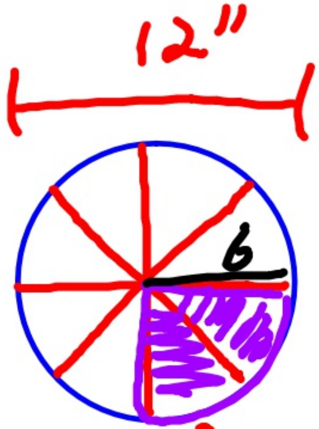
Double the Radius

Any slice!

Cannot be combined with other offers.
More fine print no one reads but you should.



Original Pizza diameter: 12 inches
Sliced into 8 slices.

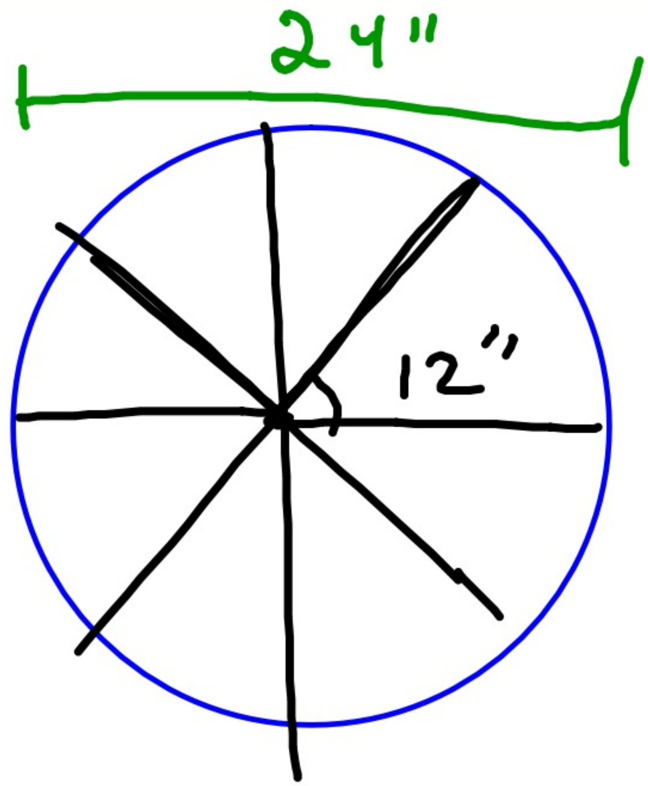


$$\frac{\pi(6)^2 = 113.8 \text{ in}^2}{8}$$

14.14 in^2

$\times 2$

28.28 in^2



$$A_s = \frac{45^\circ}{360^\circ} \cdot \pi(12)^2$$

$$\approx 56.55 \text{ in}^2.$$

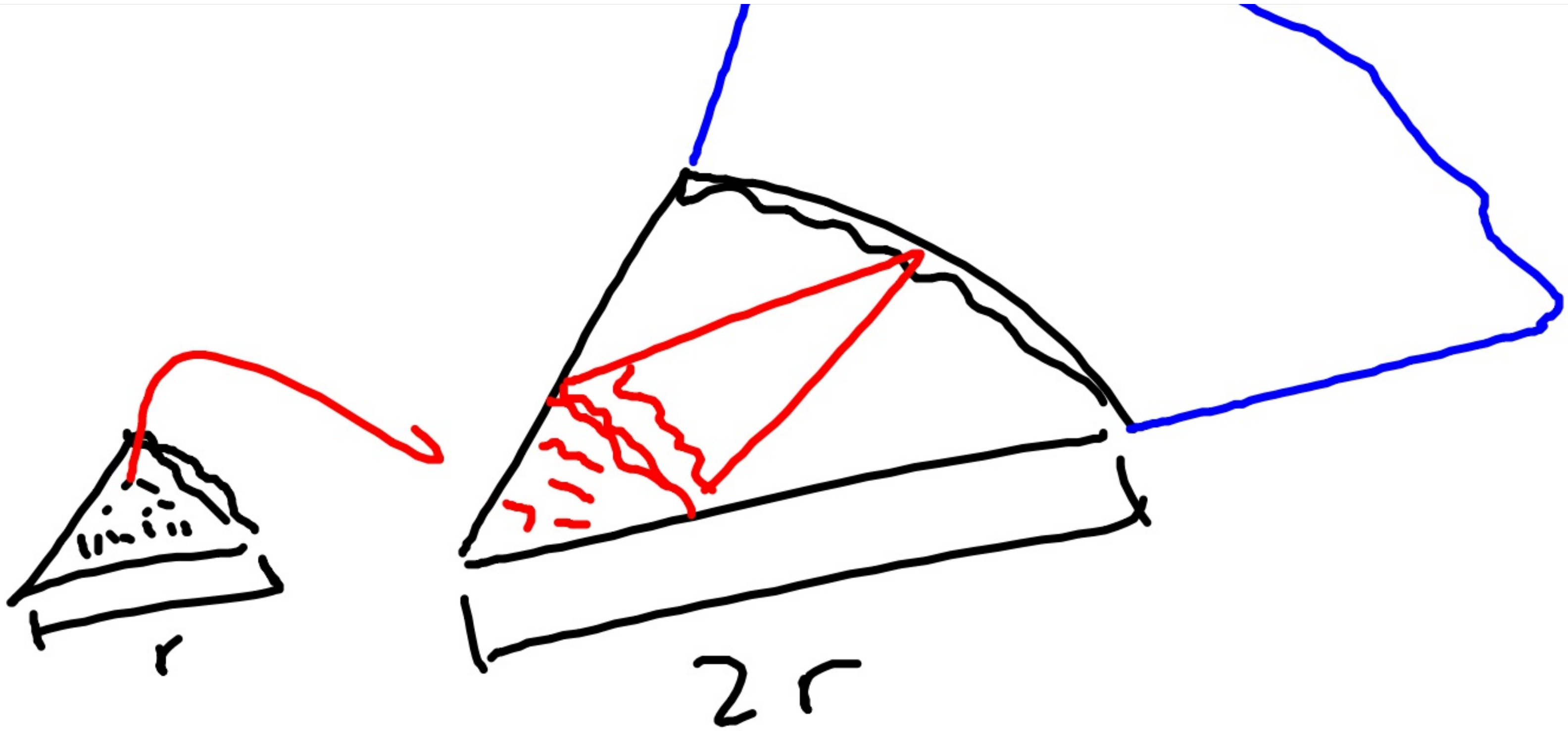
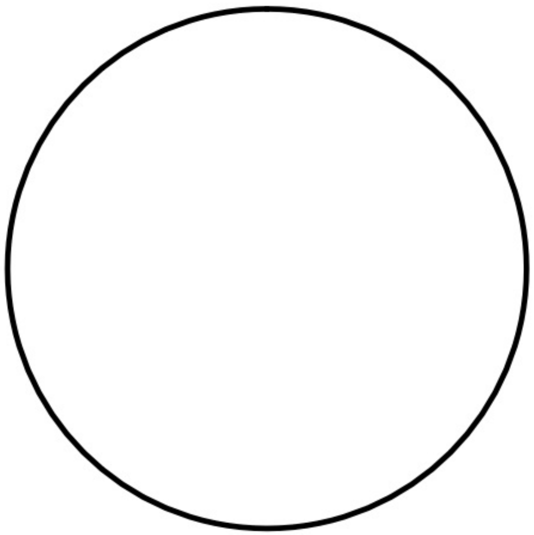
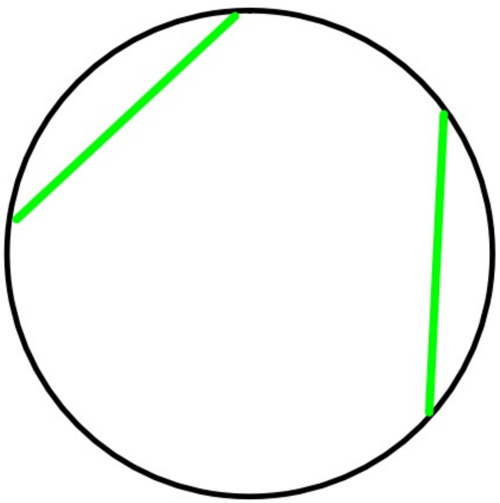

r
2r

Figure out how many degrees of arc measure each dot on the circle represents

24 360°



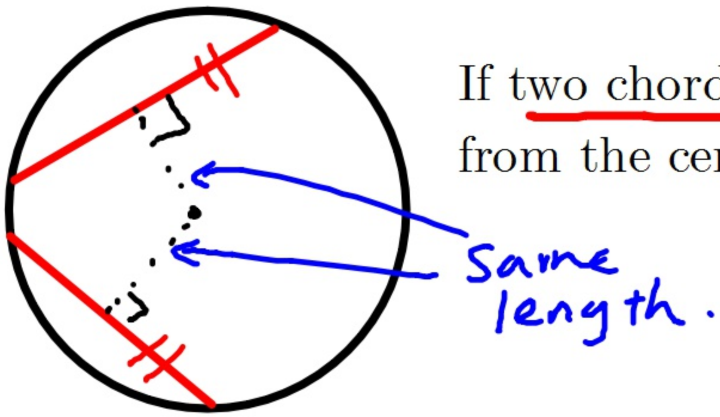
$$\frac{360^\circ}{24} = 15^\circ$$



Use two lime green segments and place them as chords in the circle.

Use an orange piece as a radius.
What do you notice about the green chords?

Theorem to add to notebooks:



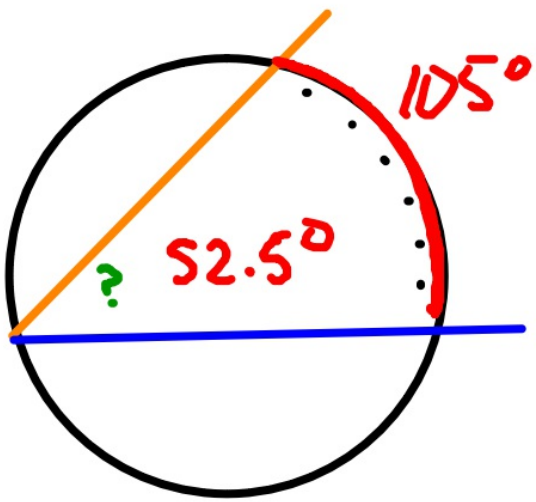
If two chords are congruent, then they are equidistant from the center of the circle.

Why is this true? HL and CPCTC

[redacted]

Use an orange and a blue piece to create an acute angle. Place the vertex of the angle along the circumference and then attach the connectors

An angle with its vertex on the circle is called an inscribed angle



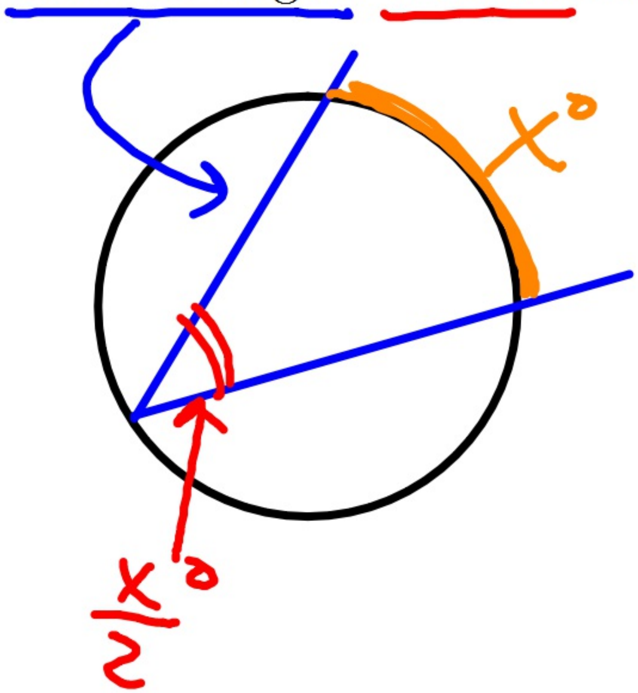
How many degrees is the intercepted arc ?

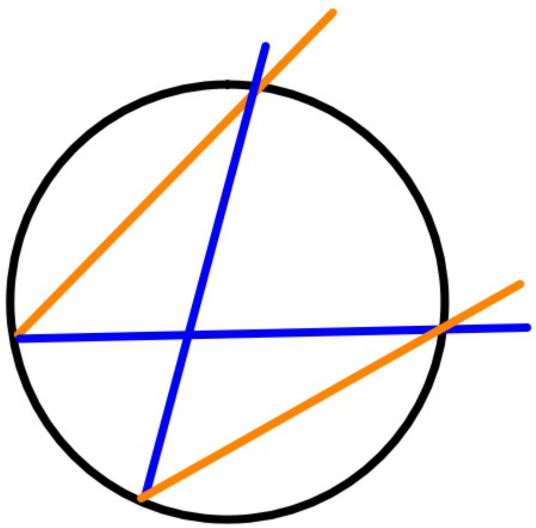
How many degrees is the angle? (use a protractor)

What is their relationship?

Write this down:

An inscribed angle's measure is equal to half the measure of the intercepted arc.





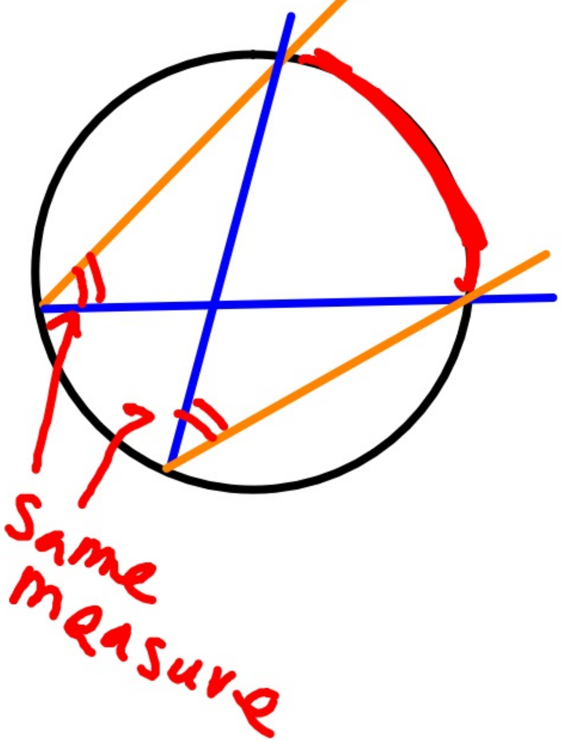
Now take another blue and orange piece and arrange them as shown, so they intercept the same arc.

What do you observe about this new angle?

Write this down:

Theorem:

If two inscribed angles intercept the same arc, then the angles are congruent.



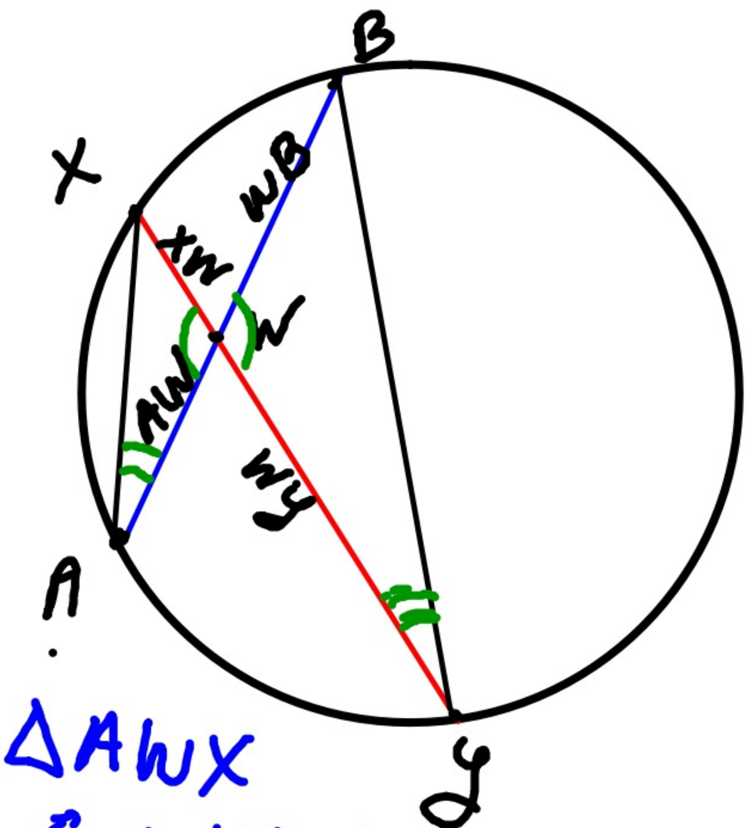
Trace one more circle using the disk

[title this new section "Intersecting Chords"]

Put all the pieces neatly back into the large bag

Put the discs back into the smaller bag

Use a straight edge and draw two chords $\overline{AB}$ and $\overline{XY}$ that intersect inside the circle.



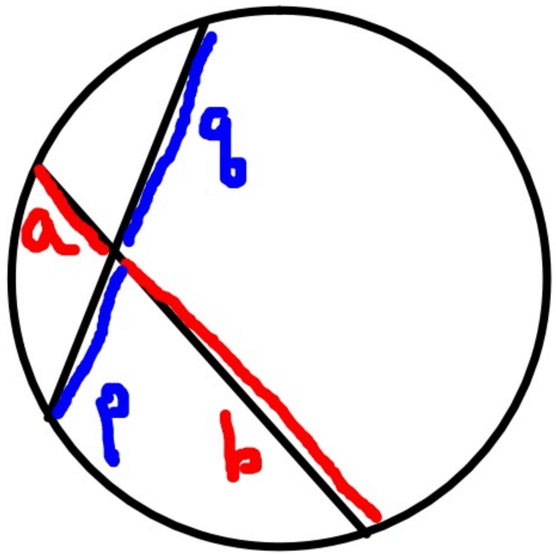
$\triangle AWX \sim \triangle YWB$ (AA~)

$$\frac{AW}{WY} = \frac{XW}{WB}$$

$$(AW)(WB) = (WY)(XW)$$

Write this down:

Intersecting Chords Theorem



$$a \cdot b = p \cdot q$$

Homework

Handout #1-14
Due Tuesday