Algebra 2
Unit: Geometry
Section: Geometry of Circles

Flash Cards: Angles and Arcs of Circles

Directions: Answer the following.

1. Find the measure of angle ACD. The circle given has points A, D, G and F on the circle. Segment AG and segment DF intersect in the inside of the circle. Arc AD measures 150 degrees and arc FG measures 30 degrees.

2. Find the measure of angle X. The circle has point X which lies outside the circle. Line segments are draw from point x, intersecting the circle at points H and I, and points J and K. Arc IK measures 112 degrees and arc HJ measures 23 degrees.

3. Find the value of x. The circle given has points A, D, G and F on the circle. Segment AG and segment DF intersect in the inside of the circle. Arc AD measures 6x minus 4 degrees, arc FG measures 30 degrees and angle ACD measures 5x plus 2 degrees.

4. Find the value of y. The circle has point X which lies outside the circle. Line segments are draw from point x, intersecting the circle at points H and I, and points J and K. Arc IK measures 10y + 3 degrees; arc HJ measures 35 degrees and angle X measures 24

Answers:

1. Angle ACD will be half the sum of the intercepted arcs.
The measure of angle ACD equals one-half the sum of 150 and 30. The measure of angle ACD equals one-half times 180. The measure of angle ACD equals 90 degrees.

2. Angle X will be half the difference of the intercepted arcs.
The measure of angle X equals one-half the difference of 112 and 32. The measure of angle x equals one-half times 89. The measure of angle x equals 44.5 degrees.

3. Angle ACD will be half the sum of the intercepted arcs.
The measure of angle ACD equals one-half the sum of the measure of arc AD and the measure of arc FG. 5 x plus 2 equals one-half the quantity 6 x minus 4 plus 30. 5 x plus 2 equals 3 x minus 13. 2 x equals negative 15. X equals negative 7.5

4. Angle X will be half the difference of the intercepted arcs.
The measure of angle x equals one-half the difference of the measure of arc IK and the measure of arc HJ. 24 equals one-half the quantity 10 y plus 3 minus 35. 24 equals 5 y minus 16. 5 y equals 40. Y equals 8.