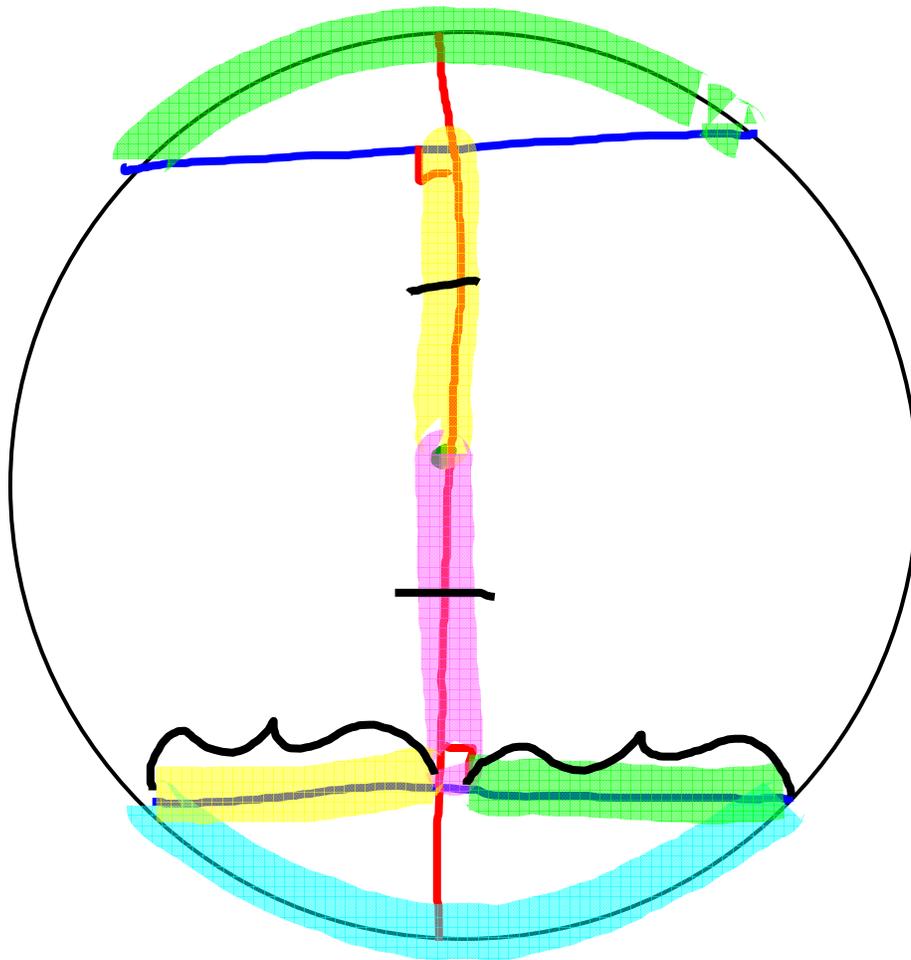


Notes for Lesson 9-4: Arcs and Chords  
 Complete the following steps using the given circle



Step 1: Find the center of the circle

Step 2: draw two congruent horizontal chords at the top and bottom

Step 3: draw in a diameter that is perpendicular to the two chords

What can deduce about the lengths of the arcs made by the two chords?

$\cong$  chords make  $\cong$  arcs

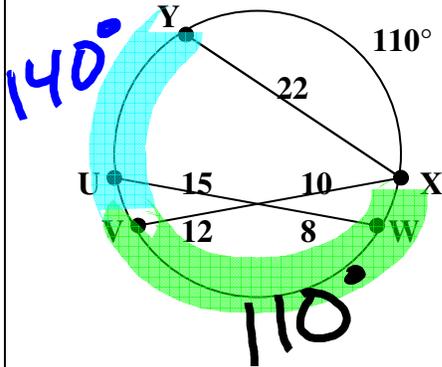
What can you deduce about the distance along the diameter between the center and the chords?

$\cong$  chords are same distance from center of circle

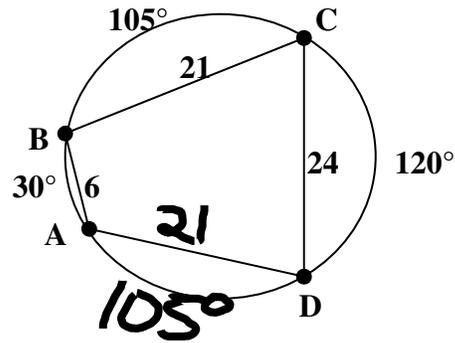
What can you deduce about the length from the diameter to each end of the chord?

they are  $\cong$  (chord is bisected by diameter)

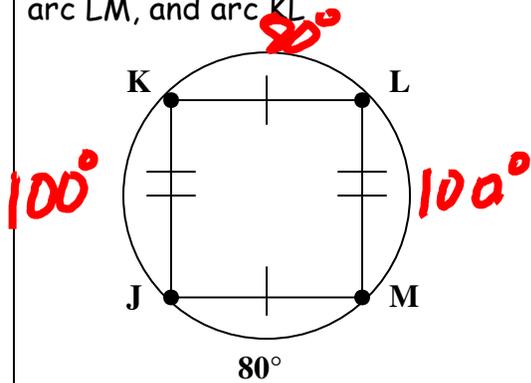
Ex 1: find the measures of arc VWX and arc VUY



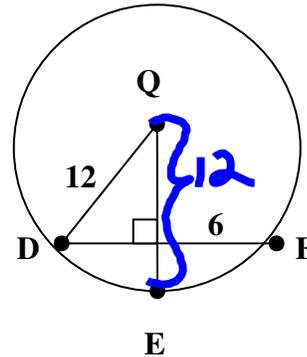
Ex 2: find the length of AD



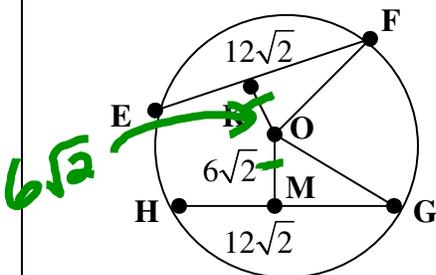
Ex 3: find the measures of arc JK, arc LM, and arc KL



Ex 4: find the length of QE



Ex 5: find the length of OK



Ex 6: Sketch a circle O with radius 17 and chord AB of length 30. How far is the chord from O?



$$x^2 + 15^2 = 17^2$$

$$x^2 + 225 = 289$$

$$\sqrt{x^2} = \sqrt{64}$$

**x=8**