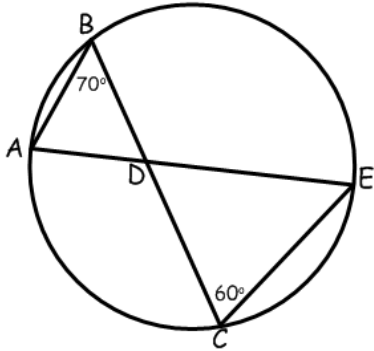Aim: How can we find the lengths of intersecting chords?

Do Now: Find the remaining angles of ∆ABD and ∆CED.

What can we say about ∆ABD and ∆CED?
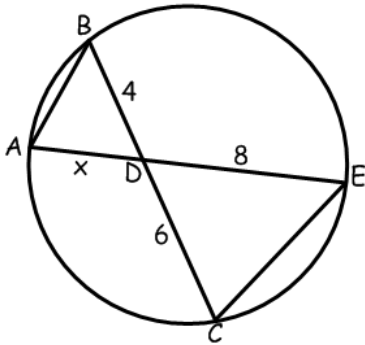
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Based off the same circle from the do now, how can we find the value of x?


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│ ┌───────────────────────────────────────────┐ │
│ │        Intersecting Chords Theorem          │ │
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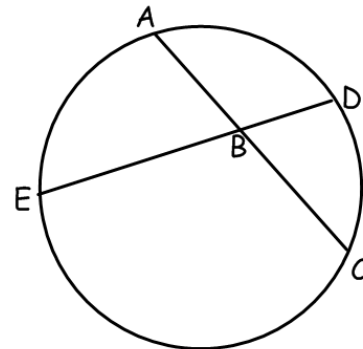

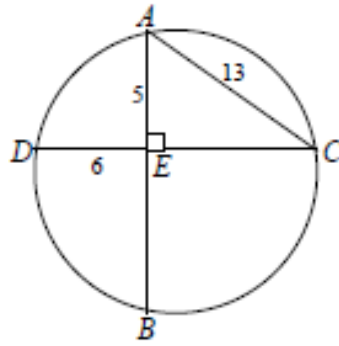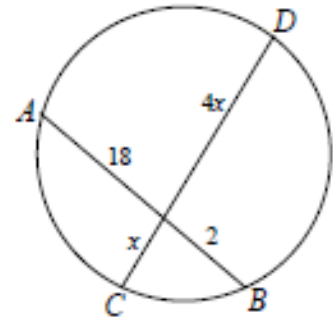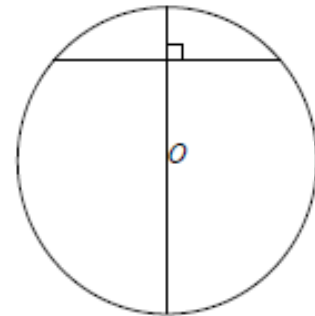
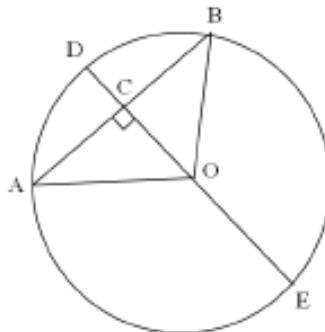What is the value of x?
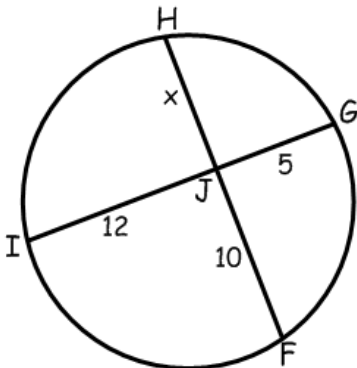
1. Find PQ
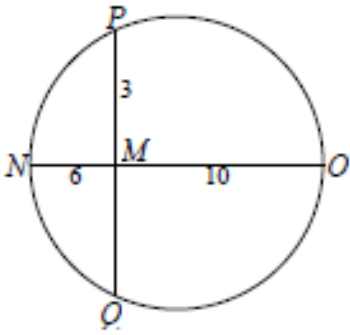
2. Find EB

3. Find CD

4. Circle M has chords $\overline{AEB}$ and $\overline{CED}$. If EB = 8, ED = 10, and AE is 1 more than CE, find CE.

5. Circle M has chords $\overline{AEB}$ and $\overline{CED}$. If CE = 4, ED = 12, and EB is 2 more than AE, find AE.

- -

In a circle, if a diameter is perpendicular to a chord, the diameter _____
the chord and its arcs

6. If AB = 6 and OC = 4, find OB.

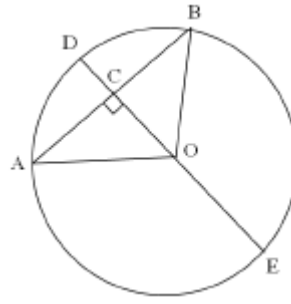7. If m∠AOB = 90, find m$\widehat{AE}$

8. If m∠AOB=90 and OC = 3, find AB
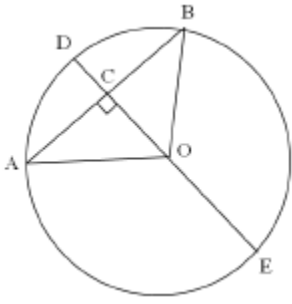
9. If m∠AOB=60 and OA = 12, find OC

10. Find the length of a chord 3 cm from the center of a circle whose diameter measures 10 cm. (the chord and diameter are perpendicular)

11. Find the length of a chord 8 cm from the center of a circle whose diameter measures 34 cm. (the chord and diameter are perpendicular)
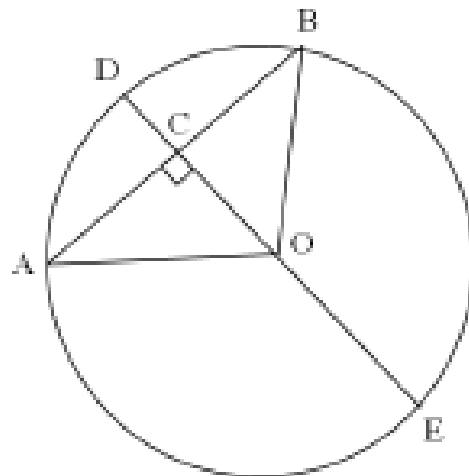
12. If m∠AOE=140, find:

a. m∠AOC

b. m∠AOB
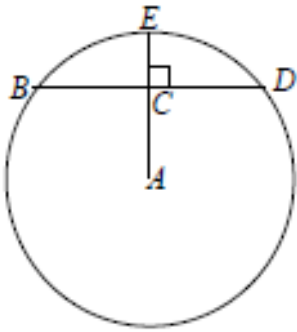
c. m$\widehat{AB}$

d. m$\widehat{BD}$

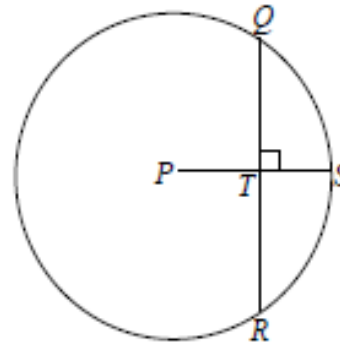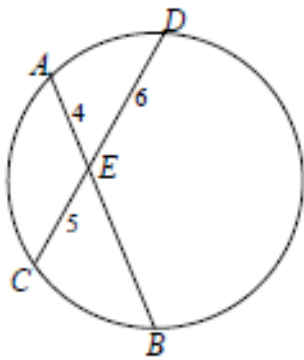e. m$\widehat{AEB}$

13. Find BD if EC = 2, and AE = 5.
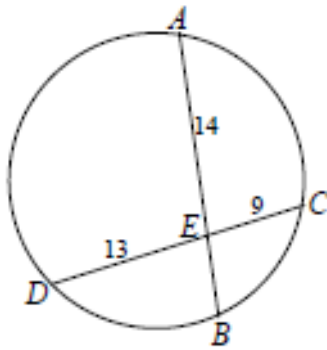

14. Find QR to the nearest tenth if PT = TS = 10.

15. Round to the nearest tenth if necessary

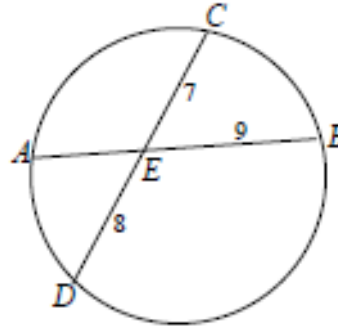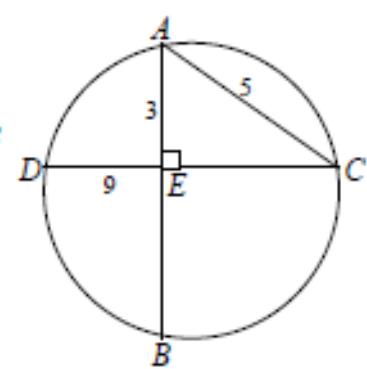a] Find *EB*

b] Find *EB*

c] Find *AE*

d] Find *EB*

16. Circle M has chords $\overline{AEB}$ and $\overline{CED}$. If AE = 3, CE = 5, and ED is 4 less than EB, find EB.

17. In the diagram of circle O below, chord AB intersects chord CD at E. DE = 2x + 8, EC = 3, AE = 4x-3 and EB = 4. What is the length of DC?