MTH1W

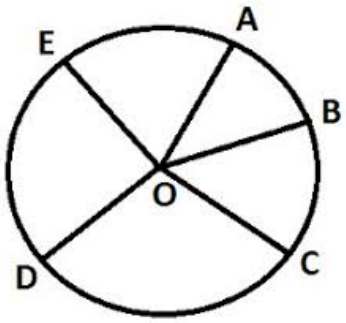
Circles

A **circle** is a set of points that are all the same distance (equidistant) from a fixed point called the **centre**.

- The distance from the centre to the circle is one **radius**.
- A **central angle** is an angle formed by two radii of a circle.

1. O is the centre of this circle.
   Which line segments are **radii**?

2. Redraw the circle on the right, but with only central angle ∠DOC drawn.

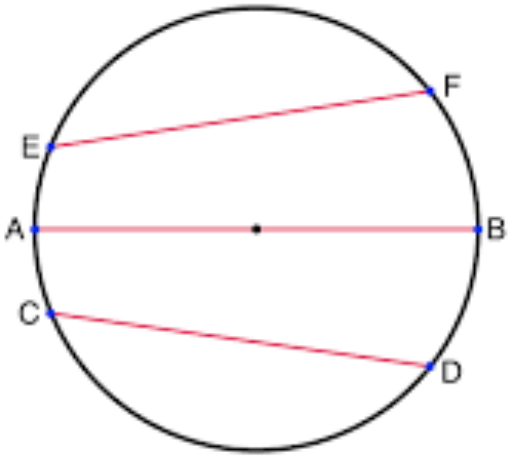


A **chord** is a line segment joining any two points on the circle.

2. Name three **chords** of the circle below.

3. Which of those chords is the same as one **diameter**?

4. Draw chord EC and chord FB

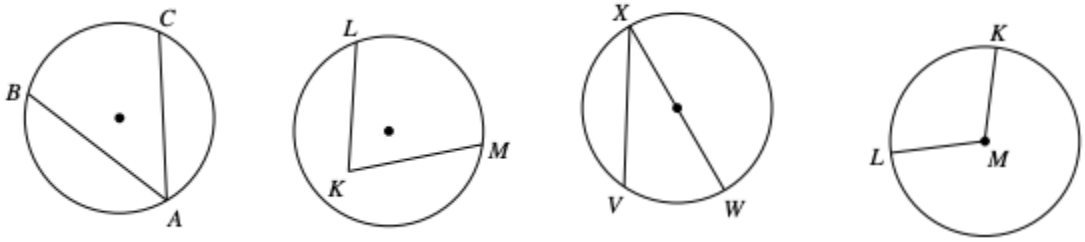


An **inscribed angle** is an angle formed by two chords that share a common endpoint;

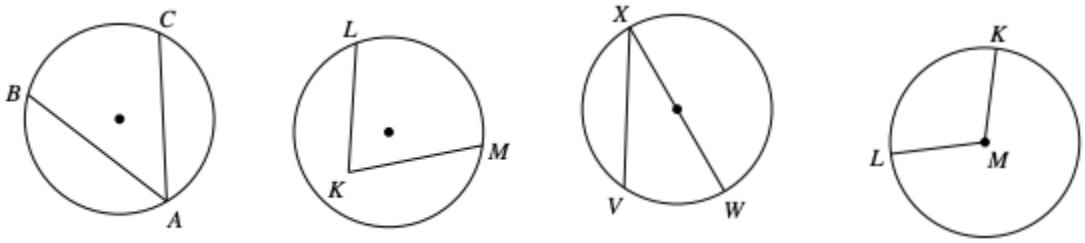
- that is, an angle formed by joining three points on the circle.

An **arc** is a portion of the circumference of the circle.

5. Two of these are inscribed angles, and two are not. Which are which?

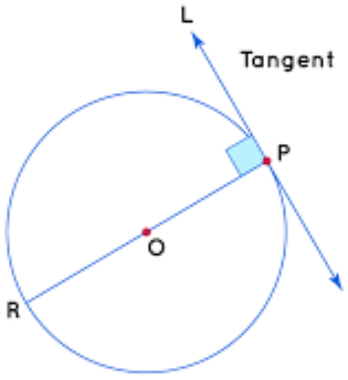


6. Name the **arc** that's relevant to each circle.

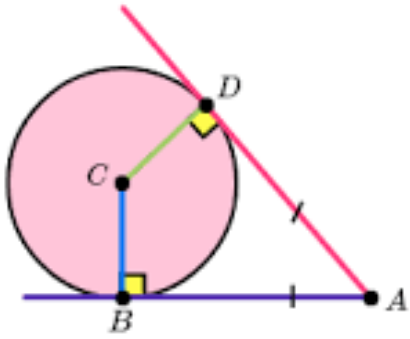


A **tangent** is a line that touches the circle at exactly one point, which is called the point of tangency.

- A tangent is **always** 90° (**perpendicular**) to a radius of the circle.



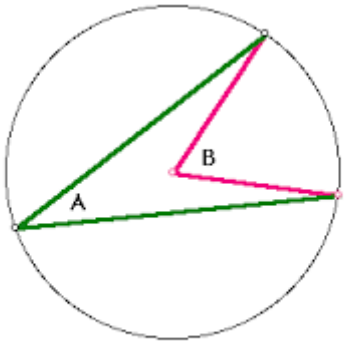
7. In the diagram on the right, Angle A is 40 degrees. How large is angle C?



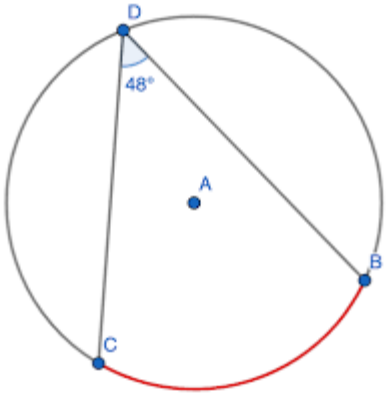
A central angle made from two points is always DOUBLE the size of the corresponding inscribed angle.

In this example, angle B is DOUBLE the size of angle A.

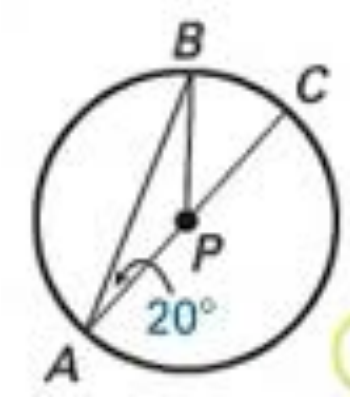
- This would be true no matter where A was on the circle



8. How large is Angle CAB here?



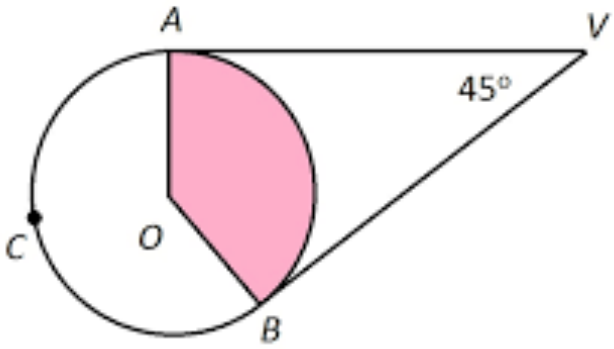
9. How large is angle BPC here?



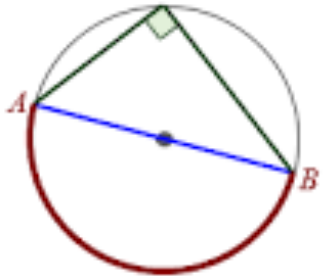
10. AV and BV are tangent to the circle.

a) How large is angle AOB?

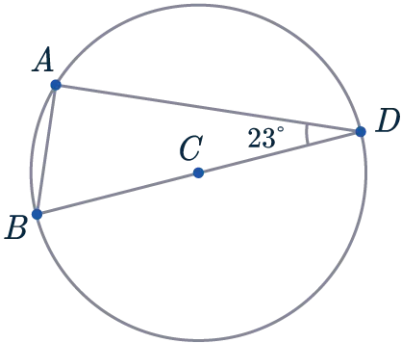
b) How large is angle ACB?



The angle made between two points of a diameter and *any* other point of the circle is 90°.

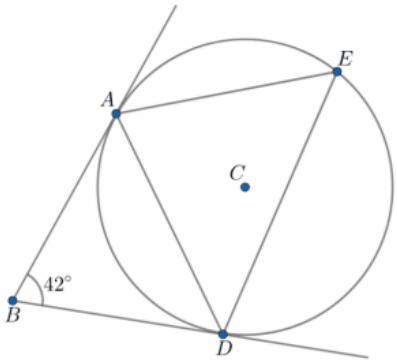


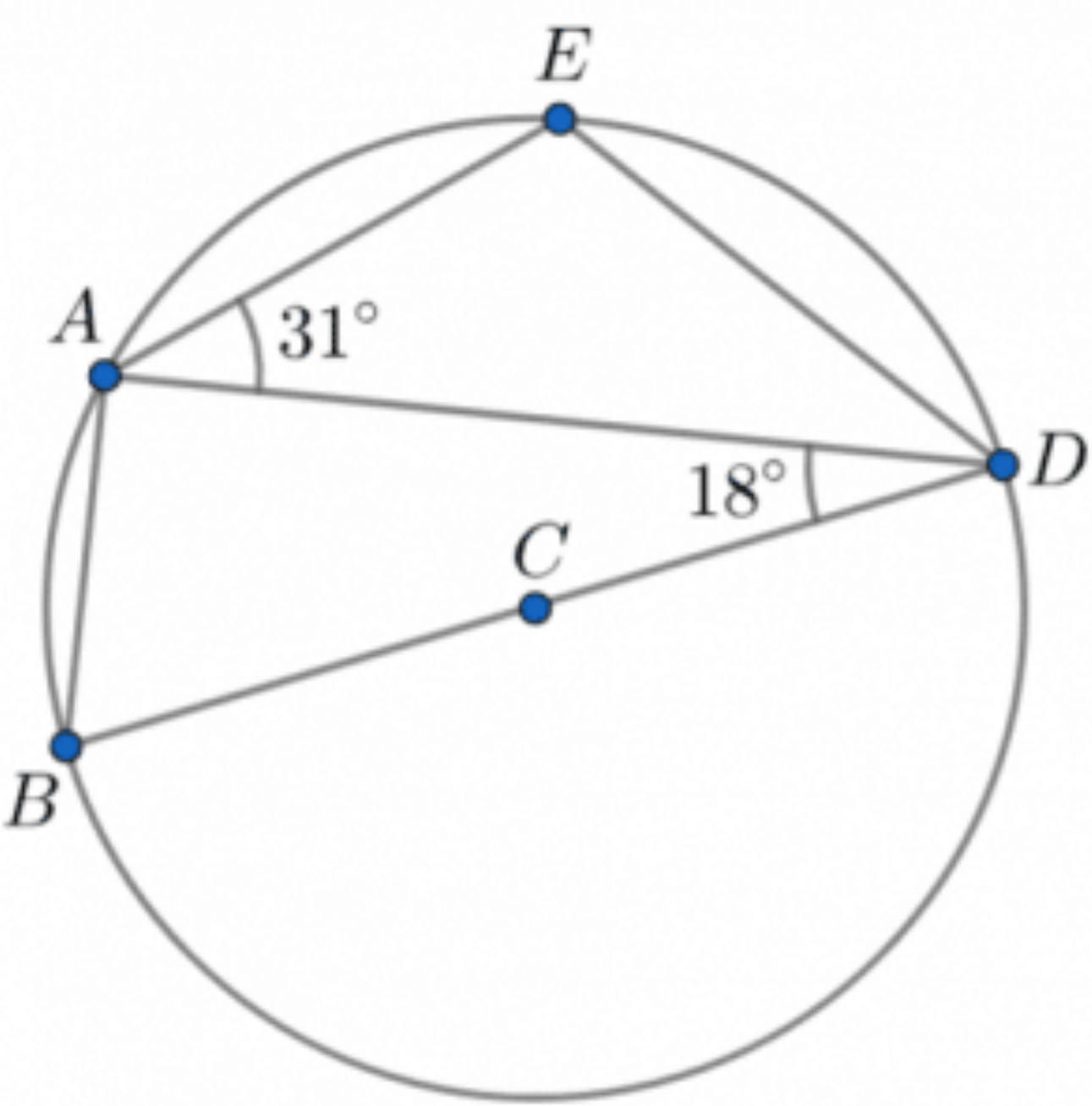
11. How big is ∠CBA?



12. What is the measure of angle EDA?

13. Find the size of angle AED.




E
A
31°
D
18°
C
B