O Level E Maths   Tutorial 12: Properties of Circles

1. C is the centre of the circle. State the value of x, giving the reason.

Figure 12-1

2. The length of CD is 4 cm. State, giving reason, the radius of the circle.
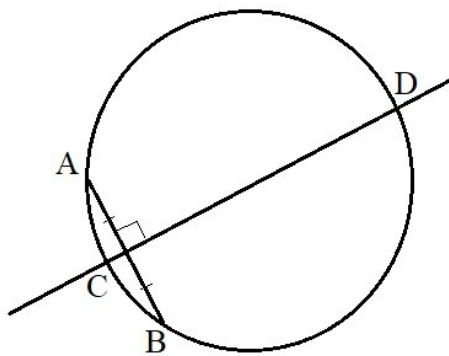
Figure 12-2

  - tangents from an external point are equal in length
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3.   AB in the figure is 10 cm. State the length of AC. Give the reason.
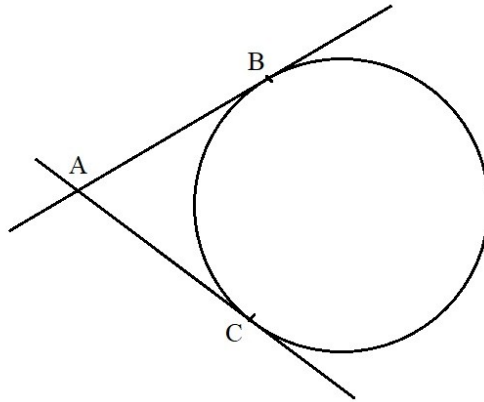
Figure 12-3

  - the line joining an external point to the centre of the circle bisects the angle between the tangents
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4.   A line from point A passes through the centre of the circle.   State the value of angle x, giving the reason.
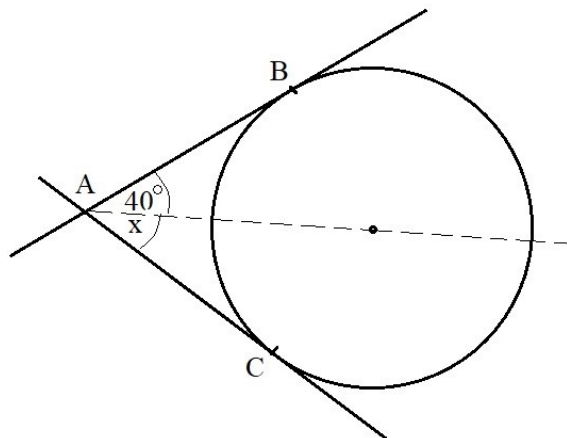
Figure 12-4

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• angle properties of circles:
  - angle in a semicircle is a right angle
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5. In this circle, C is the centre. State the angle ABC. Give the reason.
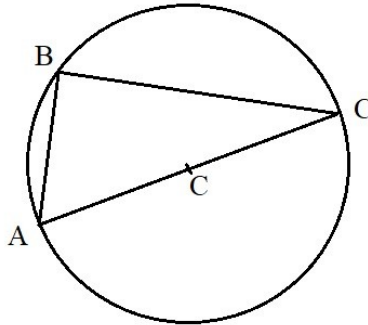
Figure 12-5

 - angle between tangent and radius of a circle is a right angle
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6. State the angle x. Give the reason.
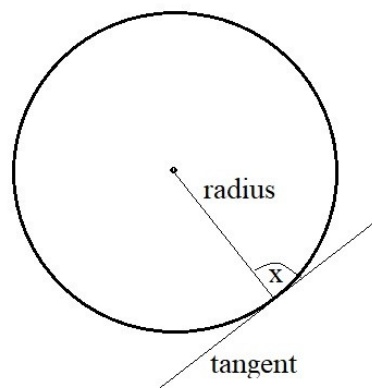
Figure 12-5

 - angle at the centre is twice the angle at the circumference
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7. Find x. State the reason.
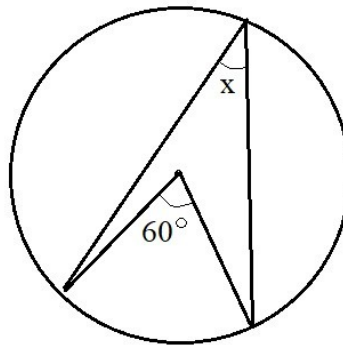
Figure 12-6

 - angles in the same segment are equal
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8. State the value of angle x. Give the reason.
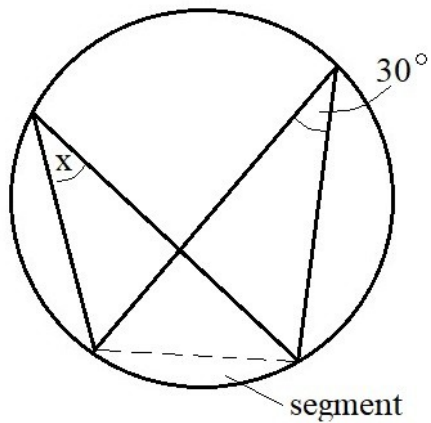
Figure 12-7

- angles in opposite segments are supplementary *
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* Supplementary angles are two angles whose measures sum up to 180 degrees.

9. Find x. Give the reason.

Figure 12-8