

Watch. Practice. Understand. | Lesson 059

2021 Geometry Writing An Equation of a Circle (Big Idea Geometry Section 10.7)

Watch the matching video: <https://www.youtube.com/watch?v=n7Jc8GvXyvg>

Practice focus: Circles, chords and equations

Original extra practice matched to the listed lesson topic.

Name: _____ Date: _____ Show your reasoning and check units.

01 Write the circle with center (2, -3) and radius 5.

02 Find the center and radius of $x^2 + y^2 - 6x + 4y - 12 = 0$.

03 A chord of a radius-5 circle is 3 units from the center. Find its length.

04 An inscribed angle intercepts an arc measuring 100° . Find the angle.

Worked answers | Lesson 059

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- 01** Write the circle with center (2, -3) and radius 5.

$$(x - 2)^2 + (y + 3)^2 = 25.$$

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- 02** Find the center and radius of $x^2 + y^2 - 6x + 4y - 12 = 0$.

Complete squares: $(x - 3)^2 + (y + 2)^2 = 25$. Center (3, -2), radius 5.

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- 03** A chord of a radius-5 circle is 3 units from the center. Find its length.

The perpendicular from center bisects the chord. Half-chord = $\sqrt{(25 - 9)} = 4$; whole chord 8.

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- 04** An inscribed angle intercepts an arc measuring 100° . Find the angle.

An inscribed angle is half its intercepted arc: 50° .