Activity 10.1: Circles & Parabolas

A

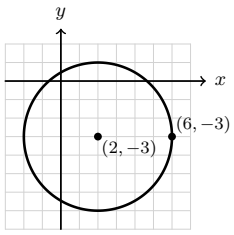
Name: _____ Partner's name: _____ Date: _____

Directions: Answer each question. Problem 1 uses a graph. Graphs are drawn accurately.

Work alone, then compare after each problem. If answers differ, find the mistake together.

1

Write the equation of the circle shown.



Answer: _____ Match? ☐ Yes ☐ No

2

Find the center and radius of $x^2+y^2-4x+6y-3=0$.

Answer: _____ Match? ☐ Yes ☐ No

3

Find the vertex of $y = x^2 - 4x + 7$.

Answer: _____ Match? ☐ Yes ☐ No

4

Find the focus of the parabola $y = \frac{1}{4}x^2$.

Answer: _____ Match? ☐ Yes ☐ No

5

Find the directrix of the parabola $y = \frac{1}{8}x^2$.

Answer: _____ Match? ☐ Yes ☐ No

6

Write the equation of the parabola with vertex $(0, 0)$ and focus $(0, 3)$.

Answer: _____ Match? ☐ Yes ☐ No

7

Find the focus of the parabola $y^2 = 12x$.

Answer: _____ Match? ☐ Yes ☐ No

8

Find the diameter of the circle $x^2 + y^2 = 25$.

Answer: _____ Match? ☐ Yes ☐ No

UNIT 10 • CONIC SECTIONS

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B

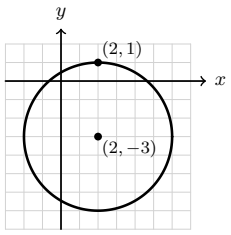
Name: _____ Partner's name: _____ Date: _____

Directions: Answer each question. Problem 1 uses a graph. Graphs are drawn accurately.

Work alone, then compare after each problem. If answers differ, find the mistake together.

1

Write the equation of the circle shown.



Answer: _____ Match? ☐ Yes ☐ No

2

Find the center and radius of $2x^2 + 2y^2 - 8x + 12y - 6 = 0$.

Answer: _____ Match? ☐ Yes ☐ No

3

Find the vertex of $y = 2x^2 - 8x + 11$.

Answer: _____ Match? ☐ Yes ☐ No

4

Find the focus of the parabola $x^2 = 4y$.

Answer: _____ Match? ☐ Yes ☐ No

5

Find the directrix of the parabola $x^2 - 8y = 0$.

Answer: _____ Match? ☐ Yes ☐ No

6

Write the equation of the parabola with vertex $(0, 0)$ and directrix $y = -3$.

Answer: _____ Match? ☐ Yes ☐ No

7

A parabola has vertex $(0, 0)$, opens to the right, and has directrix $x = -3$. Find its focus.

Answer: _____ Match? ☐ Yes ☐ No

8

Find the diameter of the circle with area 25π.

Answer: _____ Match? ☐ Yes ☐ No