

Math Sheet

Name _____ Score _____ / 42 Teacher _____ Date _____

Properties of Parabolas

Identify the requested exact properties of each parabola.

1. $y = 3 \cdot (x - 5)^2 - 12$

Minimum / maximum: _____

Latus rectum length: _____

y-intercepts: _____

x-intercepts: _____

Vertex: _____

Axis of symmetry: _____

Opening: _____

2. $x = 5 \cdot y^2 + 40 \cdot y + 80$

Minimum / maximum: _____

Latus rectum length: _____

y-intercepts: _____

x-intercepts: _____

Vertex: _____

Axis of symmetry: _____

Opening: _____

3. $y = -4 \cdot (x + 5)^2 - 4$

Minimum / maximum: _____

Latus rectum length: _____

y-intercepts: _____

x-intercepts: _____

Vertex: _____

Axis of symmetry: _____

Opening: _____

4. $x = -4 \cdot y^2 - 24 \cdot y - 28$

Minimum / maximum: _____

Latus rectum length: _____

y-intercepts: _____

x-intercepts: _____

Vertex: _____

Axis of symmetry: _____

Opening: _____

5. $y = 4 \cdot x^2 - 16$

Minimum / maximum: _____

Latus rectum length: _____

y-intercepts: _____

x-intercepts: _____

Vertex: _____

Axis of symmetry: _____

Opening: _____

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Properties of Parabolas

Identify the requested exact properties of each parabola.

6. $x = -4 \cdot y^2 - 8 \cdot y - 4$

Minimum / maximum: _____

Latus rectum length: _____

y-intercepts: _____

x-intercepts: _____

Vertex: _____

Axis of symmetry: _____

Opening: _____

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Properties of Parabolas

Answer Key

Identify the requested exact properties of each parabola.

1. $y = 3(x - 5)^2 - 12$

Minimum y: -12

Latus rectum length: $\frac{1}{3}$

y-intercepts: 63

x-intercepts: 7, 3

Vertex: (5, -12)

Axis of symmetry: $x = 5$

Opening: up

2. $x = 5y^2 + 40y + 80$

Minimum x: 0

Latus rectum length: $\frac{1}{5}$

y-intercepts: -4

x-intercepts: 80

Vertex: (0, -4)

Axis of symmetry: $y = -4$

Opening: right

3. $y = -4(x + 5)^2 - 4$

Maximum y: -4

Latus rectum length: $\frac{1}{4}$

y-intercepts: -104

x-intercepts: none

Vertex: (-5, -4)

Axis of symmetry: $x = -5$

Opening: down

4. $x = -4y^2 - 24y - 28$

Maximum x: 8

Latus rectum length: $\frac{1}{4}$

y-intercepts: $-3 + \sqrt{2}$, $-3 - 1\sqrt{2}$

x-intercepts: -28

Vertex: (8, -3)

Axis of symmetry: $y = -3$

Opening: left

5. $y = 4x^2 - 16$

Minimum y: -16

Latus rectum length: $\frac{1}{4}$

y-intercepts: -16

x-intercepts: 2, -2

Vertex: (0, -16)

Axis of symmetry: $x = 0$

Opening: up

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Name _____ Score _____ / 42 Teacher _____ Date _____

Properties of Parabolas

Answer Key

Identify the requested exact properties of each parabola.

6. $x = -4 \cdot y^2 - 8 \cdot y - 4$

Maximum x: 0

Latus rectum length: $\frac{1}{4}$

y-intercepts: -1

x-intercepts: -4

Vertex: (0, -1)

Axis of symmetry: $y = -1$

Opening: left