

Name _____
Mr. Schlansky

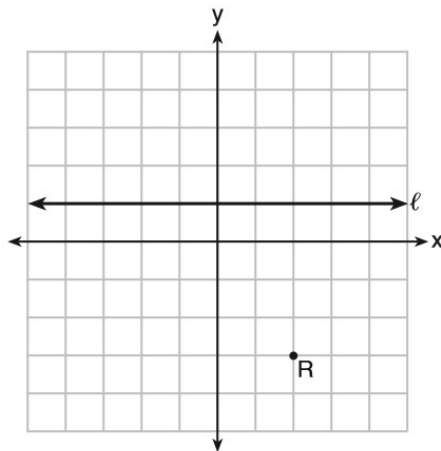
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Algebra II

Definition of a Parabola Regents Practice

1. Which equation represents a parabola with a focus of $(0, 4)$ and a directrix of $y = 2$?

- 1) $y = x^2 + 3$
- 2) $y = -x^2 + 1$
- 3) $y = \frac{x^2}{2} + 3$
- 4) $y = \frac{x^2}{4} + 3$

2. Which equation represents the set of points equidistant from line l and point R shown on the graph below?



- (1) $y = -\frac{1}{8}(x + 2)^2 + 1$ (3) $y = -\frac{1}{8}(x - 2)^2 + 1$
(2) $y = -\frac{1}{8}(x + 2)^2 - 1$ (4) $y = -\frac{1}{8}(x - 2)^2 - 1$

3. The directrix of the parabola $12(y + 3) = (x - 4)^2$ has the equation $y = -6$. Find the coordinates of the focus of the parabola.

4. Write an equation for the set of points equidistant from $y = 3$ and $(5, 8)$.

5. Which equation represents a parabola with the focus at $(0, -1)$ and the directrix of $y = 1$?

1) $x^2 = -8y$

3) $x^2 = 8y$

2) $x^2 = -4y$

4) $x^2 = 4y$

6. A parabola has its focus at $(1, 2)$ and its directrix is $y = -2$. The equation of this parabola could be

1) $y = 8(x + 1)^2$

3) $y = 8(x - 1)^2$

2) $y = \frac{1}{8}(x + 1)^2$

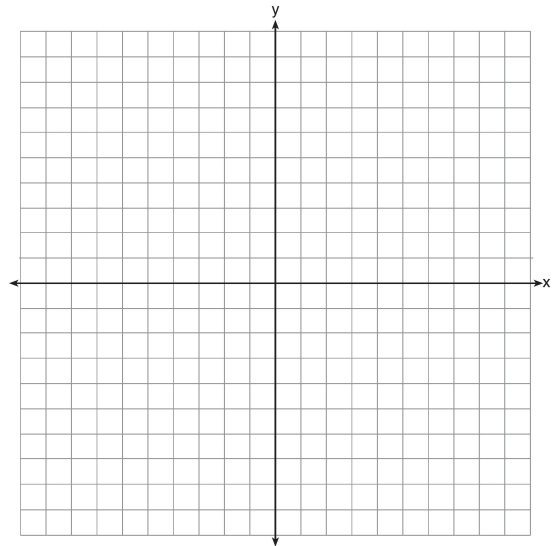
4) $y = \frac{1}{8}(x - 1)^2$

7. Write a possible equation of the parabola with the following conditions and sketch it on the accompany set of axes.

The distance between the focus and the directrix is 6

The parabola opens downward

The directrix is $y = -1$



8. Write the equation of a parabola with a directrix of $y = -4$ and a vertex of $(2, 0)$ in standard form