

Answer key

Pre-Calculus - Parabolas

Graph the following conics.
State the important characteristics.

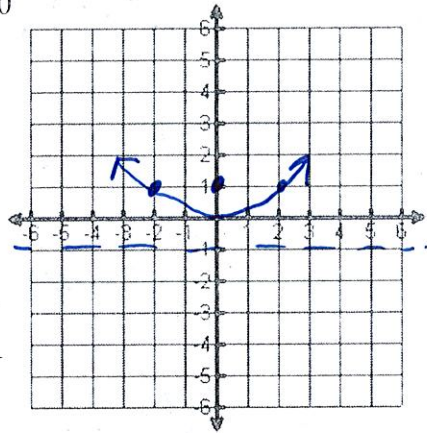
1. $x^2 - 4y = 0$

$$x^2 = 4y$$

Vertex: $(0, 0)$

Focus: $(0, 1)$

Directrix: $y = -1$



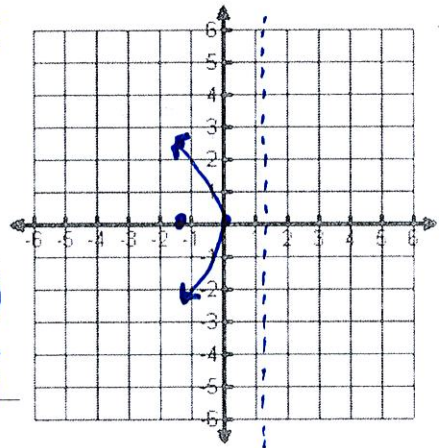
2. $20x + 4y^2 = 0$

$$y^2 = -5x$$

Vertex: $(0, 0)$

Focus: $(-\frac{5}{4}, 0)$

Directrix: $x = \frac{5}{4}$



3. $8x - 4y^2 = 0$

$$-4y^2 = -8x$$

$$y^2 = 2x$$

~~Wrote this~~



Pre-Calculus – Parabolas

Write the equation of each parabola.

4. Vertex at (0,0) and focus at (0,-3)

$$x^2 = -12y$$



5. Vertex at (0,0) and focus at (6,0)

$$y^2 = 24x$$



6. Vertex at (0, 0) and directrix at $x = -5$

$$y^2 = 20x$$



7. Vertex at (0, 0) and directrix at $y = 9$

$$x^2 = -36y$$



8. Focus at (7, 0) and directrix at $x = -7$

$$y^2 = 28x$$



9. Focus at (0, -4) and directrix at $y = 4$.

$$x^2 = -16y$$