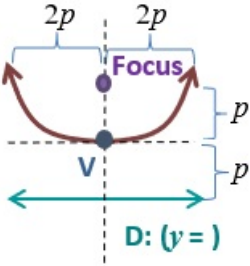
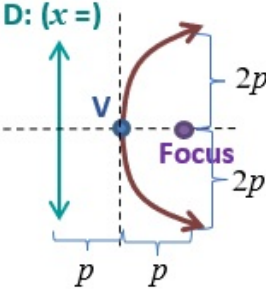
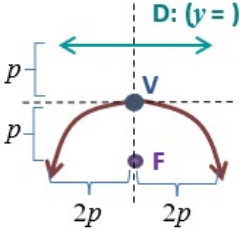


Concepts and Formulas

Conic Section

Vertical Parabola	Horizontal Parabola
<p style="text-align: center;">Positive Coefficient</p> <p style="text-align: center;">At (0,0) : $y = ax^2$</p> <p style="text-align: center;">$y = a(x - h)^2 + k$ or $y - k = a(x - h)^2$</p> <p style="text-align: center;">$y = \frac{1}{4p}(x - h)^2 + k$ or $y - k = \frac{1}{4p}(x - h)^2$</p> <p style="text-align: center;">or</p> <p style="text-align: center;">$4p(y - k) = (x - h)^2$</p> <p>Vertex: (h, k) Axis of Symmetry: $x = h$</p> 	<p style="text-align: center;">Positive Coefficient</p> <p style="text-align: center;">At (0,0) : $x = ay^2$</p> <p style="text-align: center;">$x = a(y - k)^2 + h$ or $x - h = a(y - k)^2$</p> <p style="text-align: center;">$x = \frac{1}{4p}(y - k)^2 + h$ or $x - h = \frac{1}{4p}(y - k)^2$</p> <p style="text-align: center;">or</p> <p style="text-align: center;">$4p(x - h) = (y - k)^2$</p> <p>Vertex: (h, k) Axis of Symmetry: $y = k$</p> 
<p style="text-align: center;">Negative Coefficient</p> <p style="text-align: center;">At (0,0) : $y = -ax^2$</p> <p style="text-align: center;">$y = -a(x - h)^2 + k$ or $y - k = -a(x - h)^2$</p> <p style="text-align: center;">$y = -\frac{1}{4p}(x - h)^2 + k$ or $y - k = -\frac{1}{4p}(x - h)^2$</p> <p style="text-align: center;">or</p> <p style="text-align: center;">$-4p(y - k) = (x - h)^2$</p> <p>Vertex: (h, k) Axis of Symmetry: $x = h$</p> 	<p style="text-align: center;">Negative Coefficient</p> <p style="text-align: center;">At (0,0) : $x = -ay^2$</p> <p style="text-align: center;">$x = -a(y - k)^2 + h$ or $x - h = -a(y - k)^2$</p> <p style="text-align: center;">$x = -\frac{1}{4p}(y - k)^2 + h$ or $x - h = -\frac{1}{4p}(y - k)^2$</p> <p style="text-align: center;">or</p> <p style="text-align: center;">$-4p(x - h) = (y - k)^2$</p> <p>Vertex: (h, k) Axis of Symmetry: $y = k$</p> 