

Algebra 3 Assignment # 7

Graph each the following quadratic functions please. For each, state the: **(a)** coordinates of the vertex, **(b)** equation of the axis of symmetry, and **(c)** range.

(1) $f(x) = (x - 3)^2 - 2$

(2) $f(x) = -(x + 3)^2 + 2$

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

(4) $f(x) = 3x^2 - 18x + 31$

(5) $f(x) = x^2 - 8x + 13$

(6) $f(x) = -3x^2 + 12x - 5$

(7) $f(x) = x^2 - 2x + 1$

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Answers

(1) Vertex: $(3, -2)$ Axis: $x = 3$ Range: $y \geq -2$

(2) Vertex: $(-3, 2)$ Axis: $x = -3$ Range: $y \leq 2$

(3) Vertex: $(-1, 3)$ Axis: $x = 1$ Range: $y \geq 4$

(4) Vertex: $(3, 4)$ Axis: $x = 3$ Range: $y \geq 4$

(5) Vertex: $(4, -3)$ Axis: $x = 4$ Range: $y \geq -3$

(6) Vertex: $(2, 7)$ Axis: $x = 2$ Range: $y \leq 7$

(7) Vertex: $(1, 0)$ Axis: $x = 1$ Range: $y \geq 0$