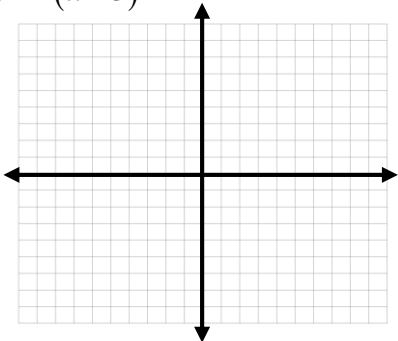


Determine the Vertex, Axis of Symmetry, x and y-intercepts, domain and range (in interval notation) of the given quadratic functions. Then, sketch the graph with five points with vertex being part of table.

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

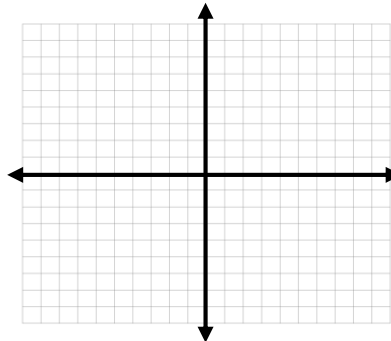


Vertex: _____ AOS: _____

x-intercept(s): _____ y-intercept(s): _____

Domain: _____ Range: _____

2) $g(x) = x^2 - 6x + 3$

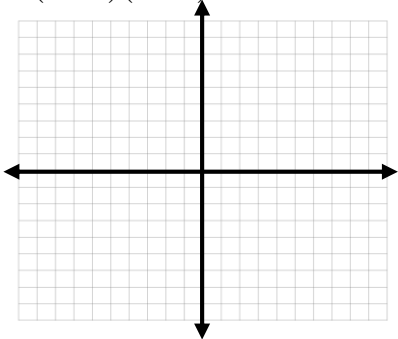


Vertex: _____ AOS: _____

x-intercept(s): _____ y-intercept(s): _____

Domain: _____ Range: _____

3) $f(x) = (x-4)(x-2)$

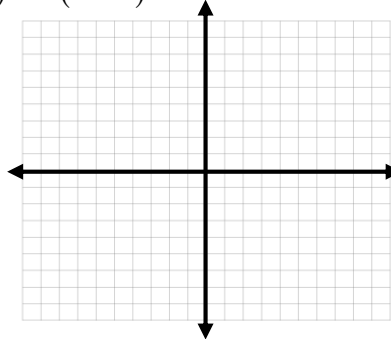


Vertex: _____ AOS: _____

x-intercept(s): _____ y-intercept(s): _____

Domain: _____ Range: _____

4) $f(x) = -(x+4)^2 + 2$

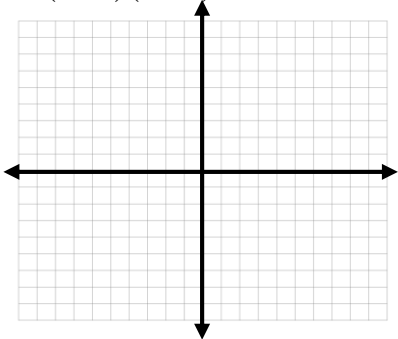


Vertex: _____ AOS: _____

x-intercept(s): _____ y-intercept(s): _____

Domain: _____ Range: _____

5) $f(x) = 3(x+1)(x+3)$

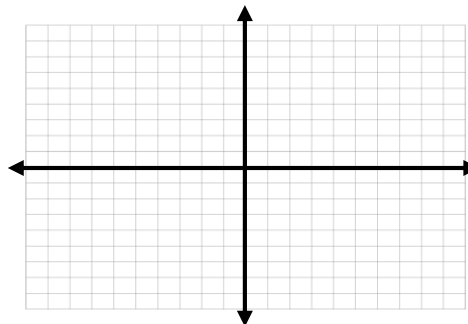


Vertex: _____ AOS: _____

x-intercept(s): _____ y-intercept(s): _____

Domain: _____ Range: _____

6) Graph: $f(x) = \begin{cases} -x^2 + 4 & \text{if } x \leq -4 \\ 2x & \text{if } -4 < x \leq 3 \\ x - 1 & \text{if } x > 3 \end{cases}$



Write in **x-intercept form**.

7) $f(x) = 3x^2 + 4x + 1$

8) $f(x) = -2x^2 - 7x - 4$

Write in **transformation/vertex form**.

9) $f(x) = (x-4)(x-2)$

10) $f(x) = 3x^2 - 6x + 1$

11) Write a rule in transformation form for the quadratic function with the vertex is at the origin and passes through (2, 12).

12) Write a rule in transformation form for the quadratic function with the vertex is at the (0, 1) and passes through (2, -7).

13) If the vertex of $f(x) = x^2 + bx + c$ is at (2, 4), solve for b and c