

Function Review 2

Without graphing, identify the vertex, axis of symmetry, direction of opening, and min/max value of each.

1) $y = (x + 2)^2 - 6$

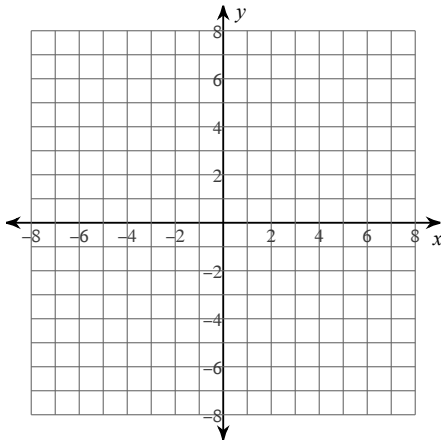
2) $y = -6(x - 7)^2 - 8$

3) $y = 5x^2 + 50x + 131$

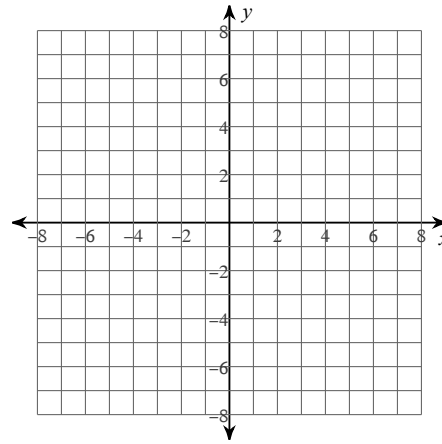
4) $y = -x^2 + 10x - 33$

Identify the vertex, axis of symmetry, y-intercept, and x-intercepts of each. Then sketch the graph.

5) $y = -2(x - 1)^2 - 1$



6) $y = x^2 - 2x - 3$



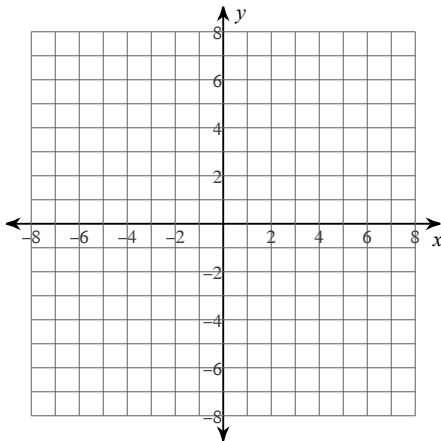
Describe the end behavior of each function.

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

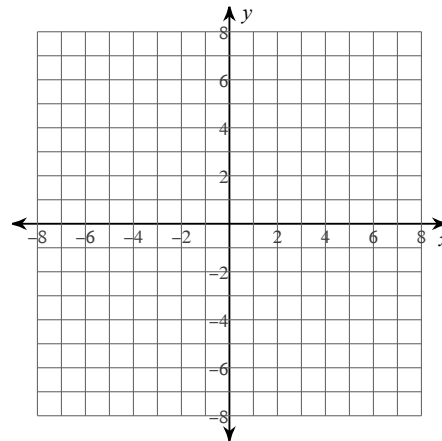
8) $f(x) = -x^3 + 3x^2 + 3$

Sketch the graph of each function. State the minimums, maximums, and zeros (if any).

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

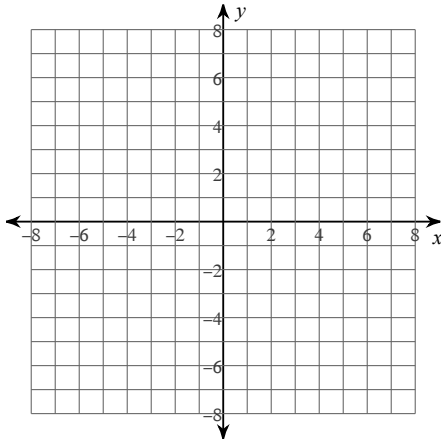


10) $f(x) = x^3 - 3x^2 - 3$

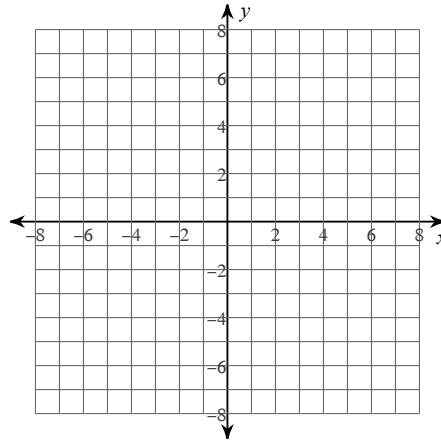


For each function, identify the horizontal and vertical asymptotes. Then sketch the graph.

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

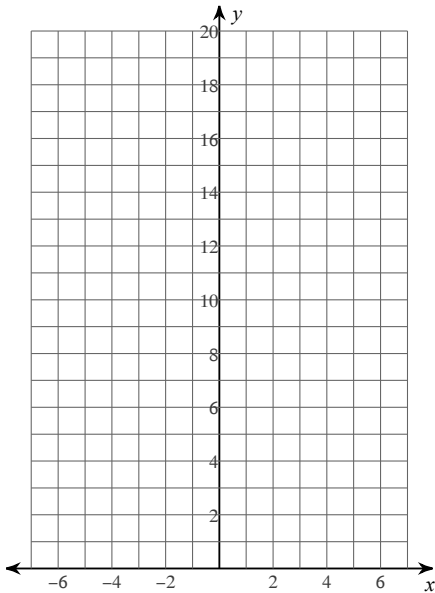


12) $f(x) = \frac{3}{x-2}$



State whether the function is growth or decay. Sketch the graph of each function. Then find the y-intercept and state the horizontal asymptote.

13) $y = 3 \cdot \left(\frac{1}{2}\right)^x + 1$



14) $y = -3 \cdot 2^x - 1$

