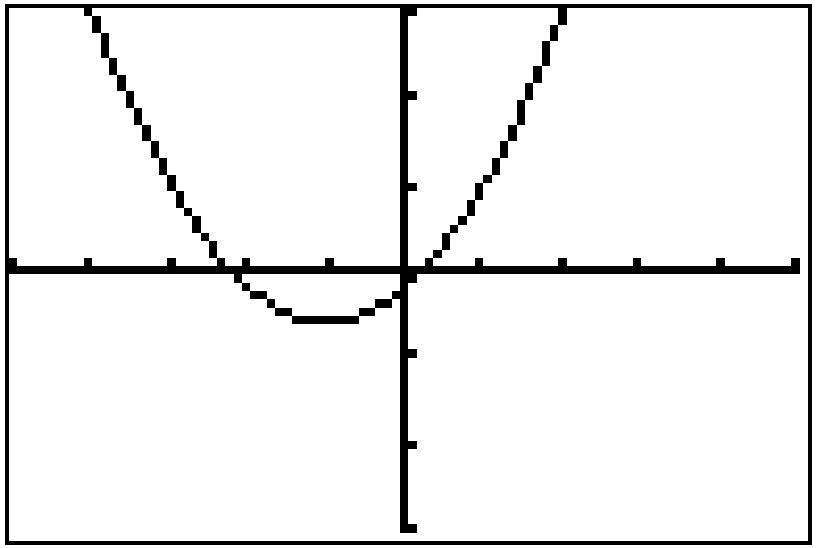
Review 2.1-2.3

Write an equation for the linear function f satisfying the given conditions.

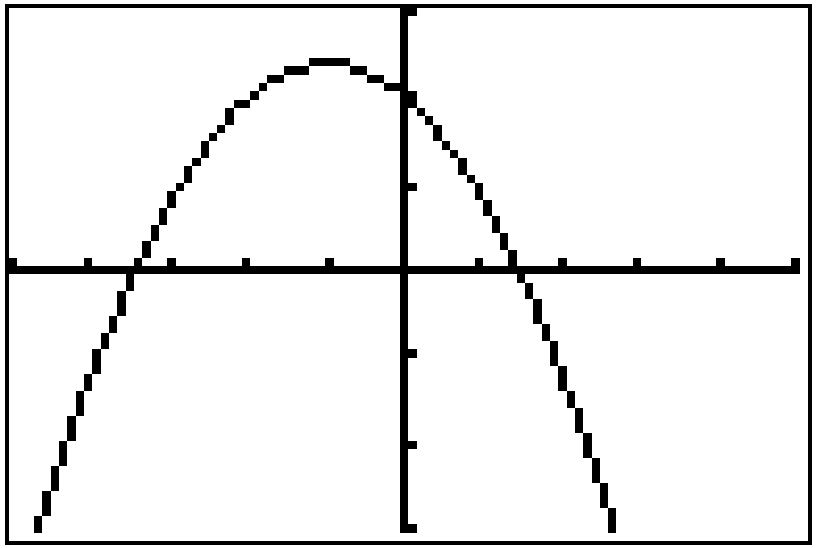
f(-5) = -1 and f(2) = 4

Match the graph with the function

1) $f(x) = 12 - 2(x + 1)^2$



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



Find the vertex and axis of symmetry.

$f(x) = 3(x - 1)^2 + 5$

Rewrite the function in vertex form by completing the square. Then find the vertex and axis of symmetry. Then find the x-intercepts of the graph using the quadratic formula.

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

Rewrite the function in vertex form ***without*** completing the square. Then find the vertex and axis of symmetry. Then find the x-intercepts of the graph ***without*** using the quadratic formula.

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

Write an equation for the quadratic function whose graph contains the given vertex and point.

Vertex (-2, -5) Point (-4, -27)

Analyze the function $y = 2x^4$

1) Determine the domain and range or undefined for $x < 0$

2) Is the function even, odd

3) Intervals of Increase or Decrease

4) Find any extrema

5) Determine the end behavior

6) Find any asymptotes

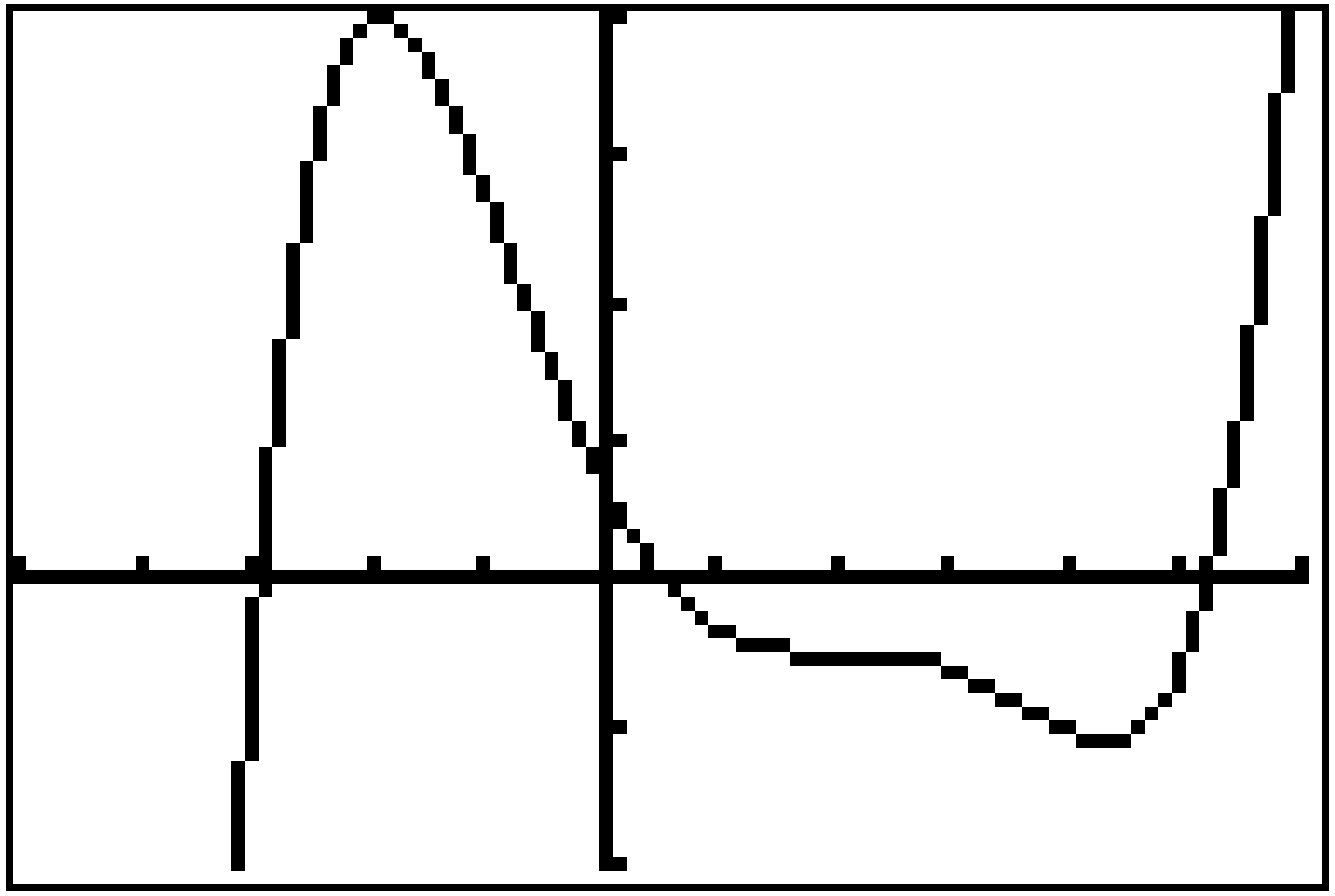
7) Intervals of Concavity

Describe how to transform the graph of $y = x^3$ into the function given. Then find the y-intercept of the graph.

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

For each graph find a) the zeros b) intervals of concavity

c) the degree of the polynomial



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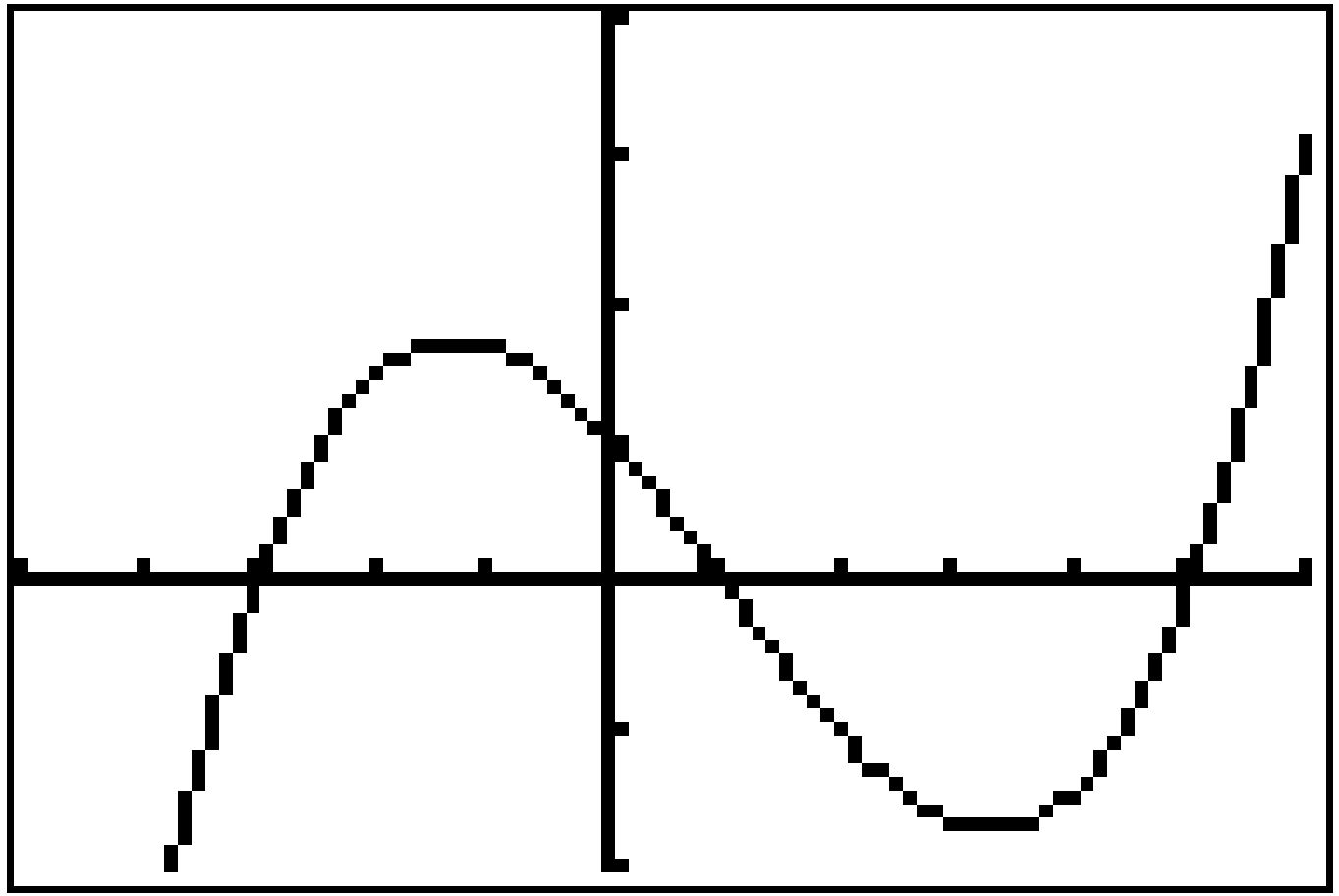

Describe the end behavior of the polynomial function.

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

Find the zeros of the function algebraically

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

State the degree and list the zeros of the polynomial function. Then state the multiplicity of each zero and whether the graph **crosses** the x-axis at the corresponding x-intercept.

$f(x) = 7x(x - 3)^2(x + 5)^4$

Using Algebra, find a cubic function with the given zeros.

2, - 5, 3