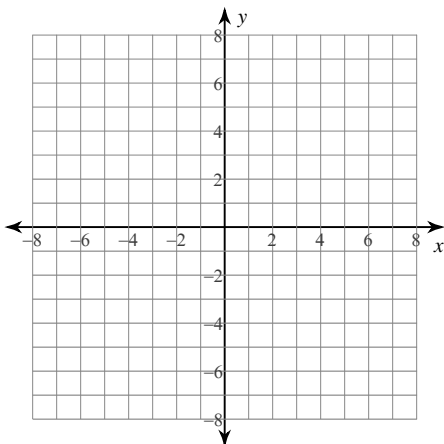


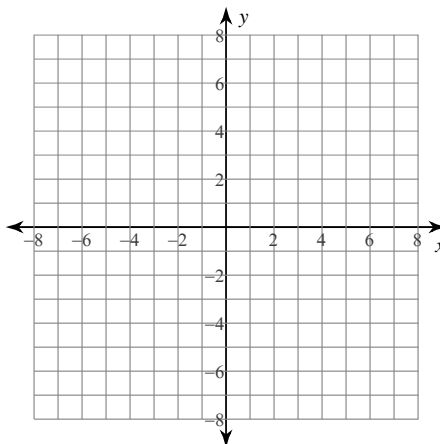
Graphing Polynomial Functions

State the maximum number of turns the graph of each function could make. Then sketch the graph. State the number of real zeros. Approximate each zero to the nearest tenth. Approximate the relative minima and relative maxima to the nearest tenth.

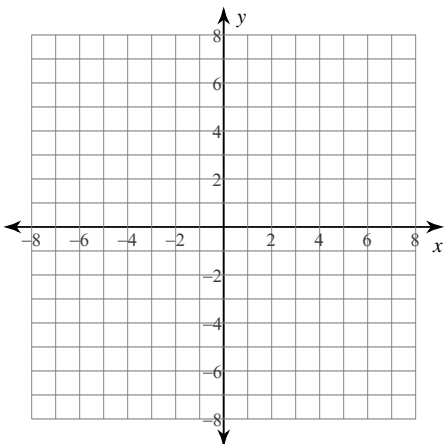
1) $f(x) = x^2 + 2x - 5$



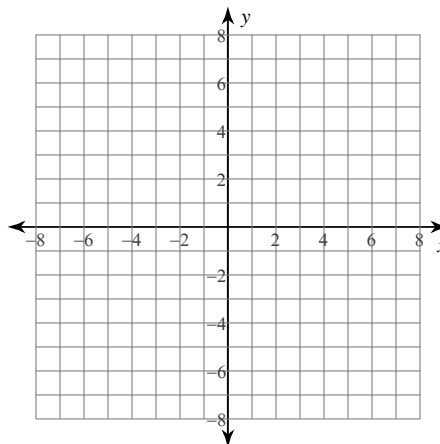
2) $f(x) = -x^4 + x^3 + 2x^2$



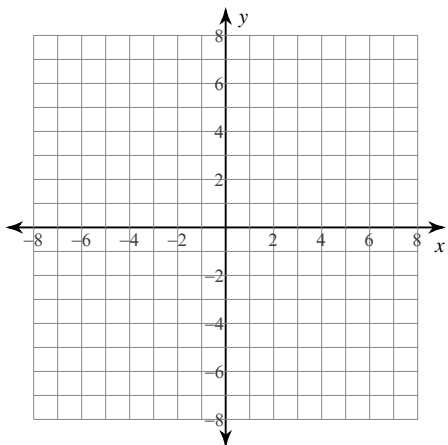
3) $f(x) = x^4 - 4x^3 + 2x^2 + x + 4$



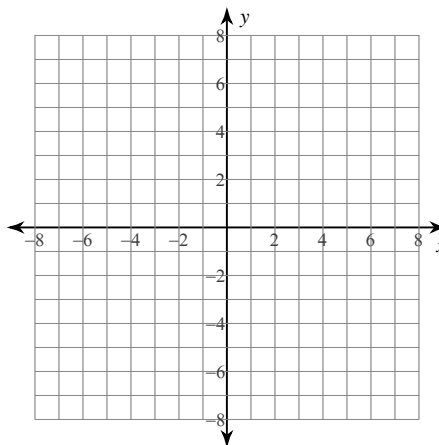
4) $f(x) = x^3 + x^2 - x - 2$



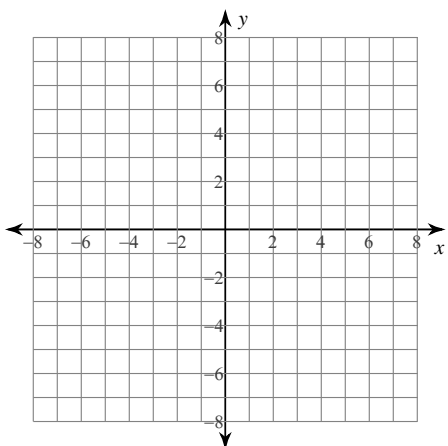
5) $f(x) = x^5 - 4x^3 + 4x - 1$



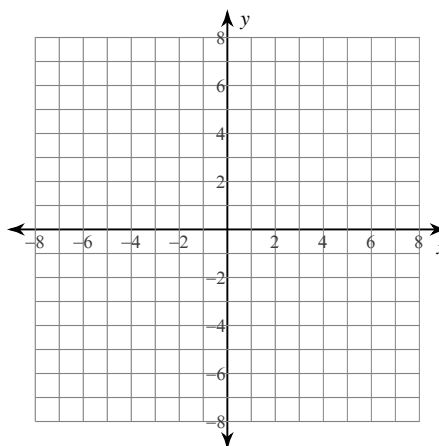
6) $f(x) = x^3 + 11x^2 + 35x + 32$



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



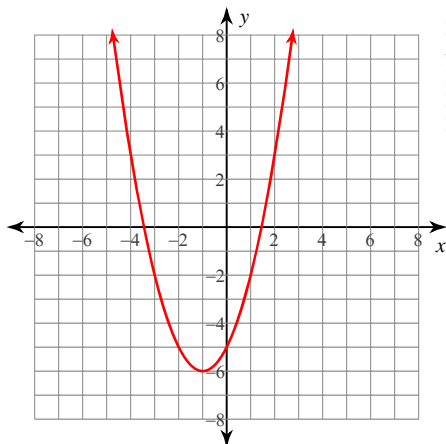
8) $f(x) = x^4 - x^2 + x$



Graphing Polynomial Functions

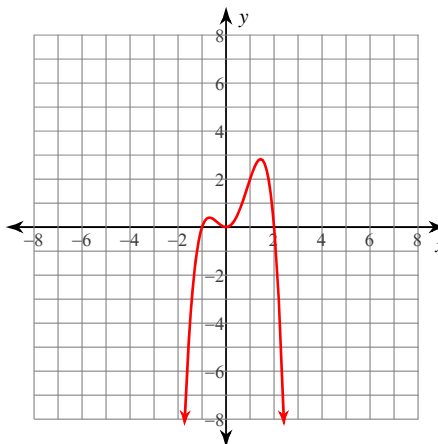
State the maximum number of turns the graph of each function could make. Then sketch the graph. State the number of real zeros. Approximate each zero to the nearest tenth. Approximate the relative minima and relative maxima to the nearest tenth.

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



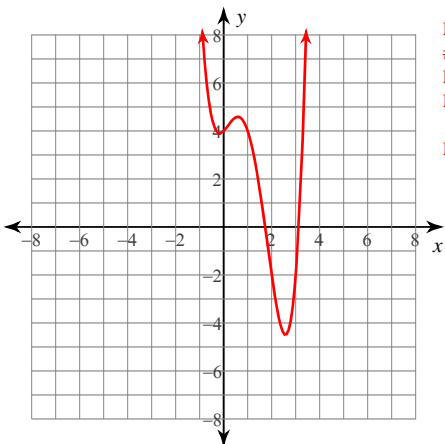
Max # Turns: 1
Real Zeros: 2
Real Zeros: -3.4, 1.4
Minima: (-1, -6)
Maxima: None

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



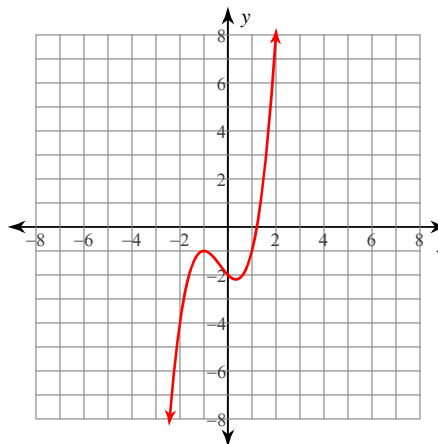
Max # Turns: 3
Real Zeros: 3
Real Zeros: -1, 0, 2
Minima: (0, 0)
Maxima: (-0.7, 0.4)
(1.4, 2.8)

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



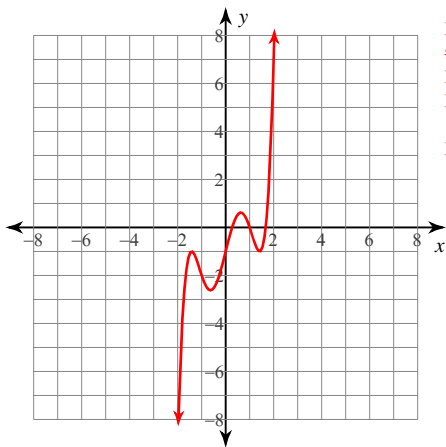
Max # Turns: 3
Real Zeros: 2
Real Zeros: 1.7, 3.1
Minima: (-0.2, 3.9)
(2.6, -4.5)
Maxima: (0.6, 4.6)

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



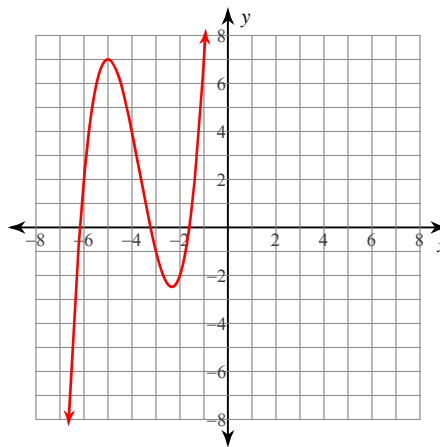
Max # Turns: 2
Real Zeros: 1
Real Zeros: 1.2
Minima: (0.3, -2.2)
Maxima: (-1, -1)

5) $f(x) = x^5 - 4x^3 + 4x - 1$



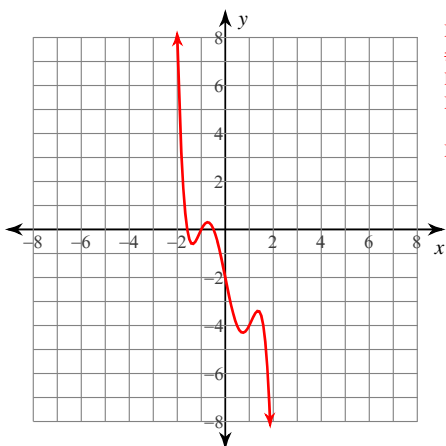
Max # Turns: 4
 # Real Zeros: 3
 Real Zeros: 0.3, 1.7, 1
 Minima: (-0.6, -2.6)
 (1.4, -1)
 Maxima: (-1.4, -1)
 (0.6, 0.6)

6) $f(x) = x^3 + 11x^2 + 35x + 32$



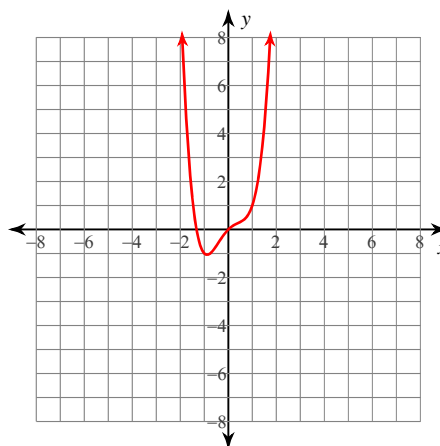
Max # Turns: 2
 # Real Zeros: 3
 Real Zeros: -6.2, -3.2, -1.6
 Minima: (-2.3, -2.5)
 Maxima: (-5, 7)

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



Max # Turns: 4
 # Real Zeros: 3
 Real Zeros: -1.6, -1, -0.5
 Minima: (-1.4, -0.6)
 (0.7, -4.3)
 Maxima: (-0.7, 0.3)
 (1.4, -3.4)

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



Max # Turns: 3
 # Real Zeros: 2
 Real Zeros: -1.3, 0
 Minima: (-0.9, -1.1)
 Maxima: None