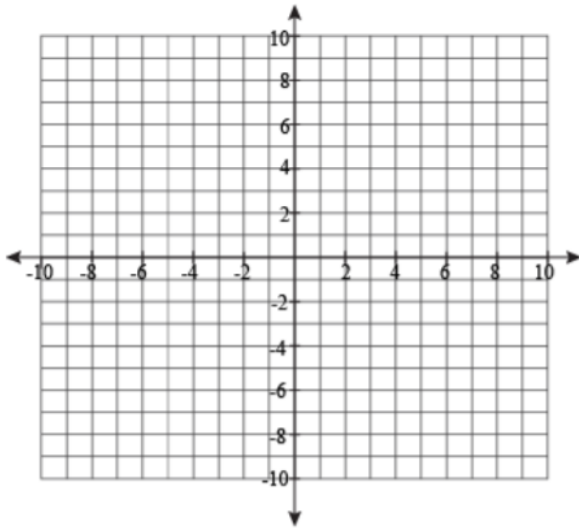


Graphing Polynomials

Name: _____

Graph and identify the attributes of the following polynomials.

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



Zeros: _____

Increasing: _____

Decreasing: _____

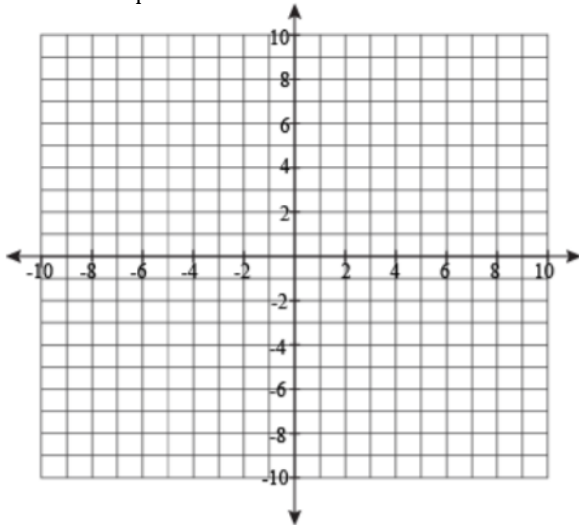
Relative Maximum(s): _____

Relative Minimum(s): _____

End behavior: _____

Domain: _____ Range: _____

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



Roots: _____

Increasing: _____

Decreasing: _____

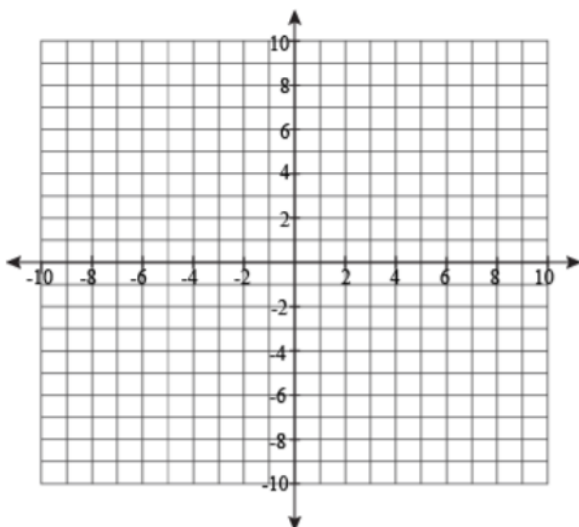
Relative Maximum(s): _____

Relative Minimum(s): _____

End behavior: _____

Domain: _____ Range: _____

3) $h(x) = \frac{1}{2}x^5 - 2x^3 - 2$



Zeros: _____

Increasing: _____

Decreasing: _____

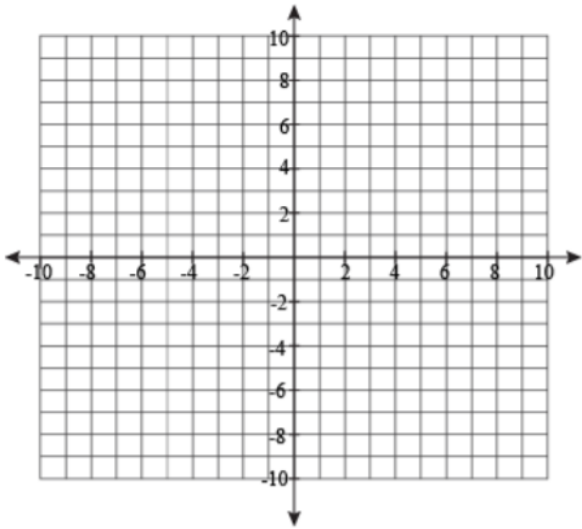
Relative Maximum(s): _____

Relative Minimum(s): _____

End behavior: _____

Domain: _____ Range: _____

$$4) j(x) = \frac{-1}{5}x^6 - \frac{1}{2}x^5 + x^4 + 2x^3 - \frac{1}{2}x^2 - 2x$$



Zeros: _____

Increasing: _____

Decreasing: _____

Relative Maximum(s): _____

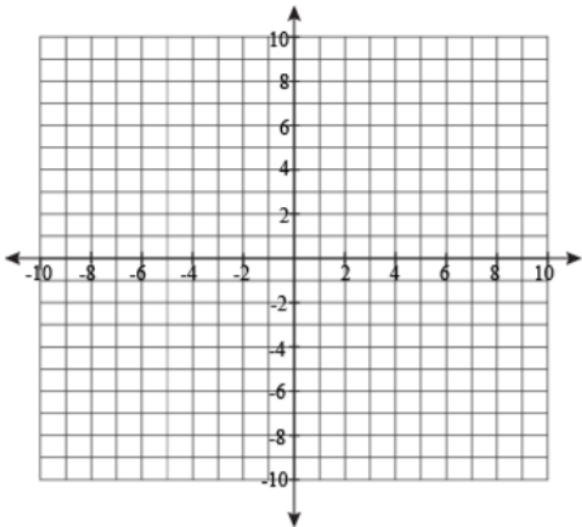
Relative Minimum(s): _____

End behavior: _____

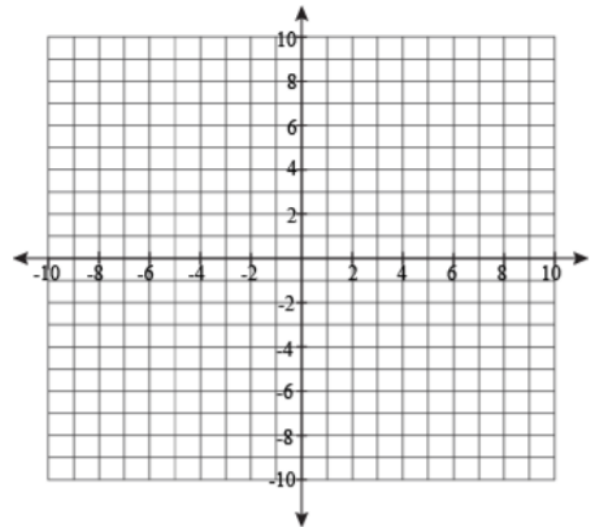
Domain: _____ Range: _____

Draw the graph of a polynomial that meets the following requirements.

5) The graph of $f(x)$ only has zeros at $x = -5$, $x = -3$, $x = 1$, and $x = 7$. The graph has a relative maximum at $x = 5$.



6) The graph of $g(x)$ has two roots and 3 intervals where it is increasing. There are 3 intervals where the graph is decreasing.



7) The graph of $h(x)$ increases from $(-\infty, -6)$, $(-1, 5)$, and $(8, \infty)$. The graph decreases from $(-6, -1)$ and $(5, 8)$. The graph's only zero is at $x = 2$,

