W5 – 1.3 – Symmetry in Polynomial Functions
MHF4U

1) Determine whether each function is even, odd, or neither. Does it have line symmetry about the y-axis, point symmetry about the origin, or neither?

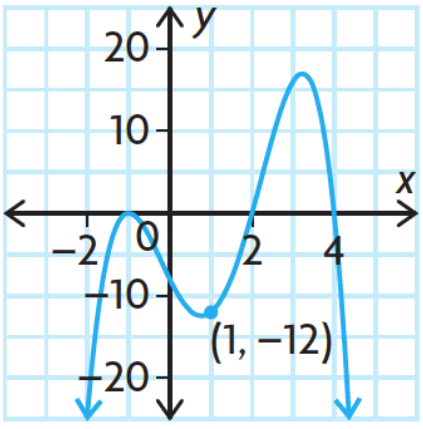
a) $y = x^4 - x^2$ **b)** $y = -2x^3 + 5x$ **c)** $y = -4x^5 + 2x^2$

d) $y = x(2x + 1)^2(x - 4)$ **e)** $y = -2x^6 + x^4 + 8$

2) State whether each function is even or odd. Verify algebraically.

a) $f(x) = x^4 - 13x^2 + 36$ **b)** $g(x) = 6x^5 - 7x^3 - 3x$

3) Use the given graph to state:



a) x-intercepts

b) number of turning points

c) least possible degree

d) any symmetry present; even or odd function?

e) the intervals where $f(x) < 0$

4) Label each function as even, odd, or neither