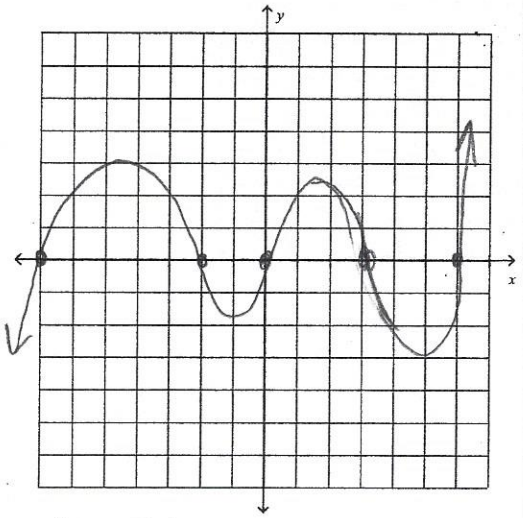
Evaluating Polynomials, Sketching, Relative Max and Min

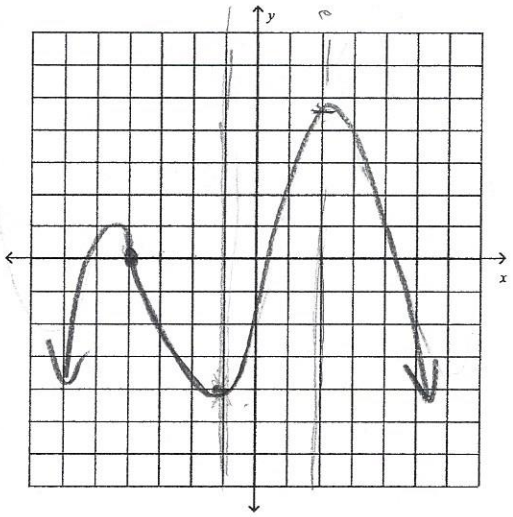
Ex 1) Sketch the graph with the following characteristics.

Odd function with zeros at -7, -2, 0, 3, 6

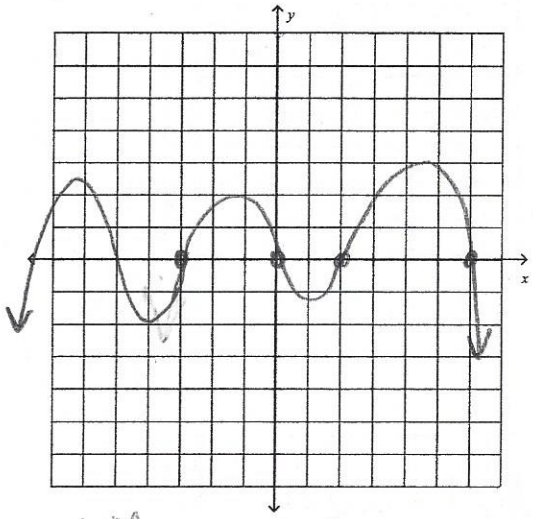


3 turns

A 4-degree function with a zero at -4, max at x=2, and min at x=-1

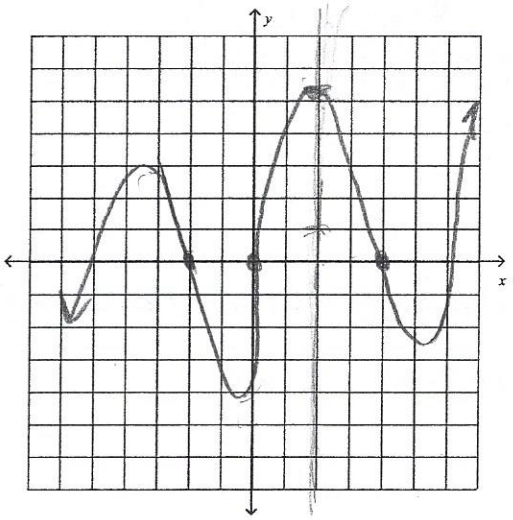


even function with zeros at -3, 0, 2, 6

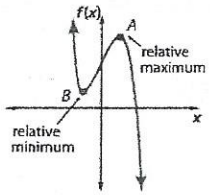


4 turns

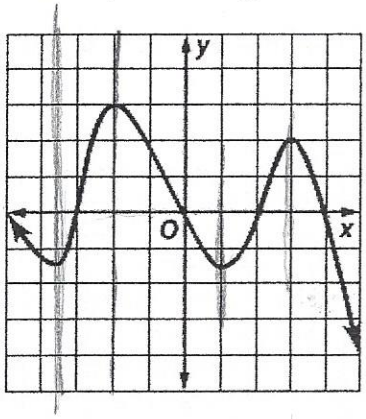
A 5-degree function with zeros at -2, 0, and 4, max at x=2



**Relative Maximum and Relative Minimum are also known as turning points



Ex 2) For each graph: a) estimate the x-coordinate of the turning point and determine if those points are relative maxima or relative minima, b) estimate the x-coordinate of every zero, c)determine the smallest possible degree of the function, and d) determine the domain and range of the function.

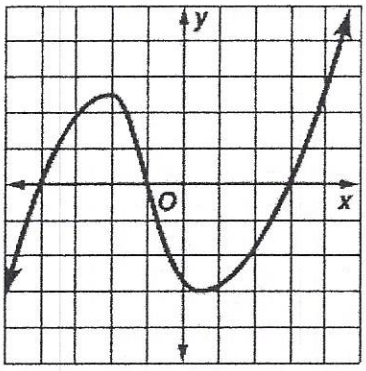


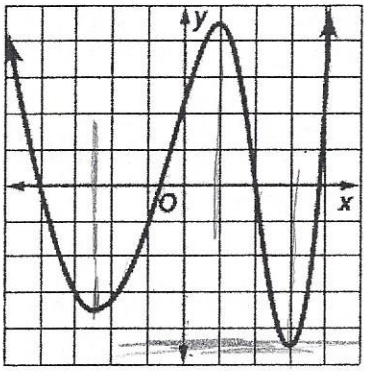
ⓐ -3.5(RMin)
-2(RMax)
1(RMin)
3(RMax)

ⓑ (-3,0) (0,0)
(2,0) (4,0)

ⓒ 5

ⓓ D(-∞,∞)
R(-∞,∞)





ⓐ -2.5(RMin)
1(RMax)
3(RMin)

ⓑ (-4,0) (-.75,0)
(2,0) (3.875,0)

ⓒ 4

ⓓ D(-∞,∞)
R[-4.5,∞)

p 335 27-32, 34-39,
p 326 24-32 even,
56, 58, 60, 63

Find $p(-6)$ and $p(3)$ for each function.

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

If $c(x) = 2x^2 - 4x + 3$ and $d(x) = -x^3 + x + 1$, find each value.

$c(b^2)$ $2(b^2)^2 - 4(b^2) + 3$

$= 2b^4 - 4b^2 + 3$