

Evaluating polynomial functions

Name:

#	Evaluate the polynomial at the given value for x	Describe the end behavior of the polynomial
Ex. 1	$f(x) = -x^3 + 2x^2 - 5x + 4$ at $f(2)$ $f(2) = -(2)^3 + 2(2)^2 - 5(2) + 4$ $f(2) = -8 + 2(4) - 5(2) + 4$ $f(2) = -8 + 8 - 10 + 4$ $f(2) = -6$	The leading coefficient is <u>negative</u> and the degree is <u>odd</u> , so the end behavior is up and down .
Ex 2	$f(x) = 3x^2 - 8x + 1$ at $f(4)$ $f(4) = 3(4)^2 - 8(4) + 1$ $f(4) = 3(16) - 8(4) + 1$ $f(4) = 48 - 32 + 1$ $f(4) = 17$	The leading coefficient is <u>positive</u> and the degree is <u>even</u> , so the end behavior is up and up .
1	$f(x) = x^3 + 4x^2 - 20x - 48$ at $f(3)$	The leading coefficient is _____ and the degree is _____, so the end behavior is _____ and _____.
2	$f(x) = -x^3 - 3x^2 + 10x + 24$ at $f(2)$	The leading coefficient is _____ and the degree is _____, so the end behavior is _____ and _____.
3	$f(x) = 2x^2 - 4x + 3$ at $f(5)$	The leading coefficient is _____ and the degree is _____, so the end behavior is _____ and _____.

4	$f(x) = -x^2 + 4x - 10$ at $f(6)$	The leading coefficient is _____ and the degree is _____, so the end behavior is _____ and _____.
5	$f(x) = -2x^3 + 4x^2 + 41x + 36$ at $f(1)$	The leading coefficient is _____ and the degree is _____, so the end behavior is _____ and _____.
6	$f(x) = 4x^2 - 3x + 5$ at $f(2)$	The leading coefficient is _____ and the degree is _____, so the end behavior is _____ and _____.
7	$f(x) = 2x^3 - 2x^2 - 40x - 64$ at $f(0)$	The leading coefficient is _____ and the degree is _____, so the end behavior is _____ and _____.
8	$f(x) = -5x^2 + 7x - 9$ at $f(1)$	The leading coefficient is _____ and the degree is _____, so the end behavior is _____ and _____.

