

End Behavior Practice Problems

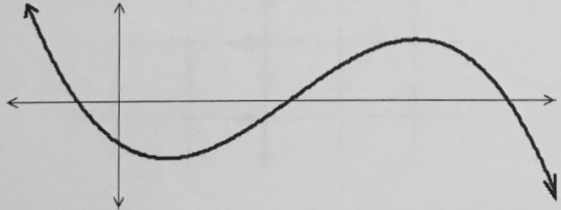
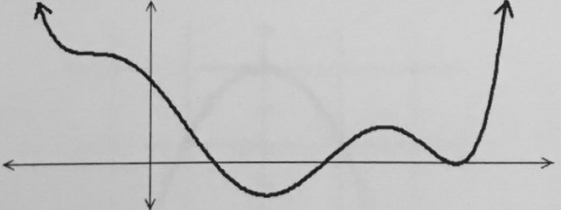
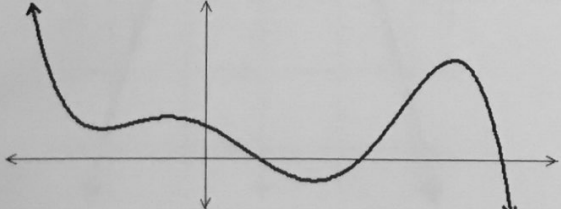
Name _____

Period _____ Date _____

Write each polynomial in standard form (if it's not already), and classify it as constant, linear, etc. Then describe its end behavior.

Polynomial	Standard Form	Classify It by Degree	As $x \rightarrow -\infty$, $y \rightarrow$ what?	As $x \rightarrow +\infty$, $y \rightarrow$ what?
1. $y = 3x^4 - 5$		Quartic	∞	∞
2. $y = 4 - 2x^3$	$-2x^3 + 4$	Cubic	∞	$-\infty$
3. $y = -10 + 2.3x$	$2.3x - 10$	Linear	$-\infty$	∞
4. $y = 3$		Constant	3	3
5. $y = 12 - 2x - 5x^4$	$-5x^4 - 2x + 12$	Quartic	$-\infty$	$-\infty$
6. $y = 14x^2 - 5x$	$14x^2 - 5x$	Quadratic	∞	∞
7. $y = x - 2x^2$	$-2x^2 + x$	Quadratic	$-\infty$	$-\infty$
8. $y = -1$		Constant	-1	-1

For each of the following graphs, determine whether the degree of the polynomial is zero, odd, or even-but-not-zero. Also say whether the leading coefficient is positive or negative.

Graph	Degree Zero, Odd, or Even-But-Not-Zero?	Leading Coefficient Positive or Negative?
9. 	Odd	negative
10. 	Even	positive
11. 	Odd	negative