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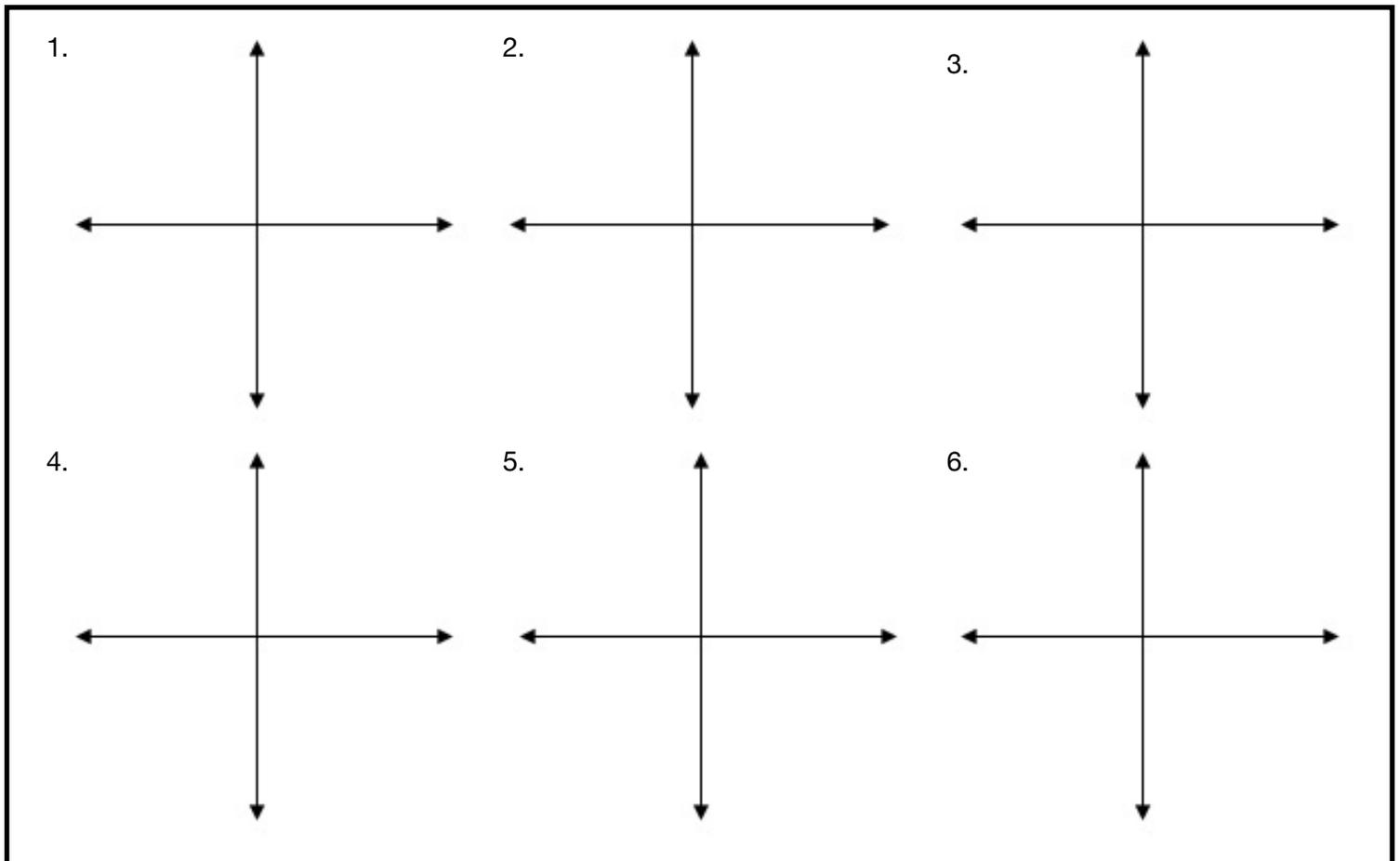
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Practice Worksheet: End Behavior & Graphing Polynomials

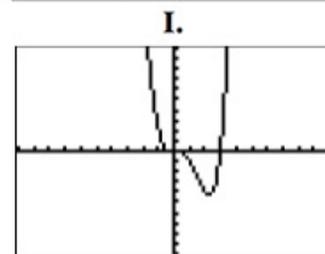
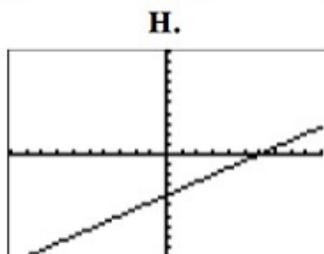
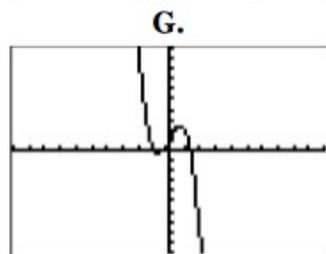
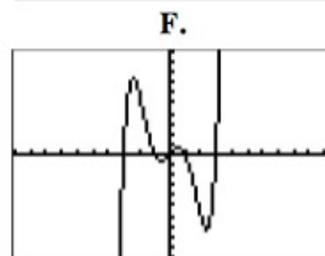
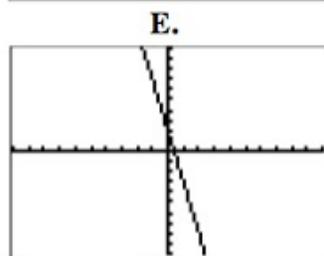
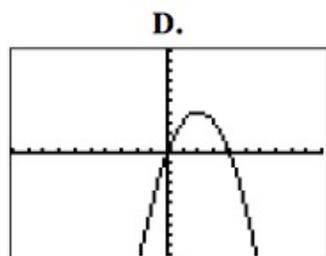
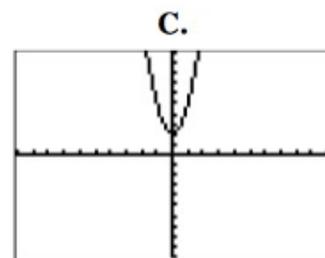
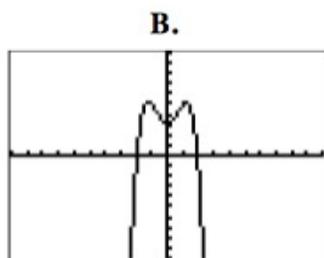
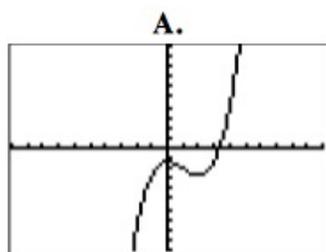
WITHOUT graphing, identify the end behavior of the polynomial function.

<p>1] $y = 2x^5 + 7x^2 + 4x$</p> <p>Degree: _____ Sign of LC: _____</p> <p>as $x \rightarrow -\infty, y \rightarrow$ _____</p> <p>as $x \rightarrow \infty, y \rightarrow$ _____</p>	<p>2] $y = -5x$</p> <p>Degree: _____ Sign of LC: _____</p> <p>as $x \rightarrow -\infty, y \rightarrow$ _____</p> <p>as $x \rightarrow \infty, y \rightarrow$ _____</p>	<p>3] $y = 12x^4 - 2x + 5$</p> <p>Degree: _____ Sign of LC: _____</p> <p>as $x \rightarrow -\infty, y \rightarrow$ _____</p> <p>as $x \rightarrow \infty, y \rightarrow$ _____</p>
<p>4] $y = 6 - 2x - 4x^2 + 5x^3$</p> <p>Standard Form:</p> <p>Degree: _____ Sign of LC: _____</p> <p>as $x \rightarrow -\infty, y \rightarrow$ _____</p> <p>as $x \rightarrow \infty, y \rightarrow$ _____</p>	<p>5] $y = 1 + 2x^6 - 4x^2 - 2x^6$</p> <p>Standard Form:</p> <p>Degree: _____ Sign of LC: _____</p> <p>as $x \rightarrow -\infty, y \rightarrow$ _____</p> <p>as $x \rightarrow \infty, y \rightarrow$ _____</p>	<p>6] $y = 4x + 2 - 5x^6$</p> <p>Standard Form:</p> <p>Degree: _____ Sign of LC: _____</p> <p>as $x \rightarrow -\infty, y \rightarrow$ _____</p> <p>as $x \rightarrow \infty, y \rightarrow$ _____</p>

Next use graphing technology to sketch a graph of the polynomial to confirm your answer. Be as detailed as possible



Match the polynomial function with its graph WITHOUT using a graphing calculator. Think about how the degree of the polynomial affects the shape of the graph.



___ 7] $y = -x^2 + 4x$

___ 8] $y = -2x^3 + 3x + 1$

___ 9] $y = \frac{1}{3}x^3 - x^2 - \frac{4}{3}$

___ 10] $y = -x^4 + 3x^2 + 3$

___ 11] $y = 3x^2 + 2$

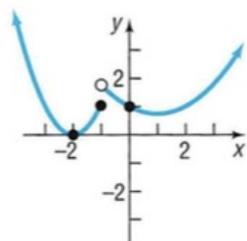
___ 12] $y = \frac{2}{3}x - 4$

___ 13] $y = \frac{1}{2}x^4 - \frac{3}{2}x^3$

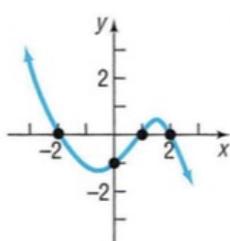
___ 14] $y = \frac{1}{5}x^5 - 2x^3 + \frac{9}{5}x$

___ 15] $y = -5x + 2$

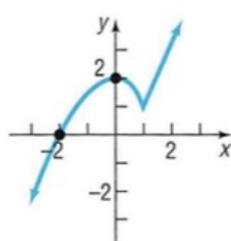
Which of the following ARE NOT GRAPHS OF POLYNOMIAL FUNCTIONS? Why do you think so?



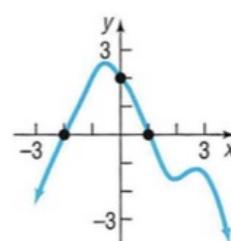
(a)



(b)



(c)



(d)

Answer and Explanations: _____
