

Algebra 2 Bellwork Monday, December 14, 2015

State the End Behavior of each polynomial.

1. $y = -6x^4 + 7x^2 - x + 14$

2. $y = 11x^2 + 4x^3 - x^5 + 3x - 18$

3. $y = (x - 7)^2(x + 4)^3(6 - 2x)^2$

4. $y = -3x^2(5x - 9)(2 - 3x)^3(4x - 8)^2$

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ANSWERS

1. $y = -6x^4 + 7x^2 - x + 14$

NEG EVEN

(↓, ↓) or as $x \rightarrow \pm\infty$,
 $y \rightarrow -\infty$

2. $y = 11x^2 + 4x^3 - x^5 + 3x - 18$

NEG ODD

(↑, ↓) or as $x \rightarrow -\infty$,
 $y \rightarrow \infty$
as $x \rightarrow \infty$,
 $y \rightarrow -\infty$

3. $y = (x - 7)^2(x + 4)^3(6 - 2x)^2$

POS ODD

(↓, ↑) or as $x \rightarrow -\infty$,
 $y \rightarrow -\infty$
as $x \rightarrow \infty$,
 $y \rightarrow \infty$

4. $y = -3x^2(5x - 9)(2 - 3x)^3(4x - 8)^2$

POS EVEN

(↑, ↑) or as $x \rightarrow \pm\infty$,
 $y \rightarrow \infty$