

Bellwork Hon Alg 2 Tuesday, December 7, 2016

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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NEG EVEN
-6 4

acts like a
parabola
opens
down

(↓, ↓)

or

as $x \rightarrow \pm \infty, y \rightarrow -\infty$

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

NEG ODD
-1 5

acts like a
line w/ neg
slope

(↑, ↓)

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
4 3

acts like a
line w/ pos slope

(↓, ↑)

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
6 8

acts like a
parabola
opens up

(↑, ↑)

or

as $x \rightarrow \pm \infty, y \rightarrow \infty$