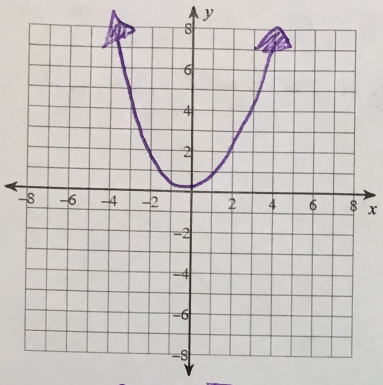
College Math

Name KEY

End Behavior - NOTES

Date_____

1) $y = x^2$

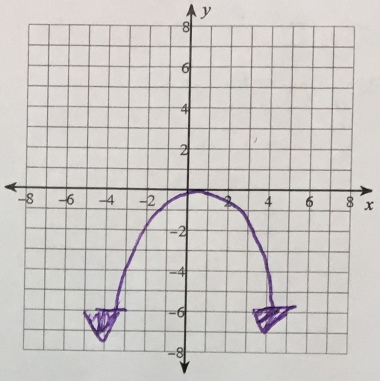


* EVEN EXPONENT
* POSITIVE LEADING COEFFICIENT

AS $x \to +\infty$, $y \to +\infty$

AS $x \to -\infty$, $y \to +\infty$

2) $y = -x^2$

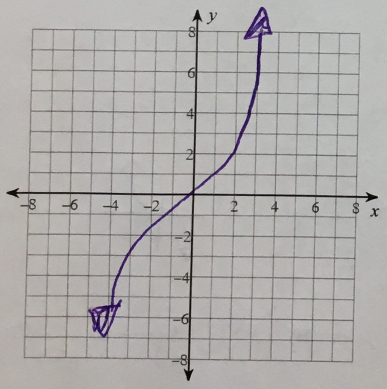


* EVEN EXPONENT
* NEGATIVE LEADING COEFFICIENT

AS $x \to +\infty$, $y \to -\infty$

AS $x \to -\infty$, $y \to -\infty$

3) $y = x^3$

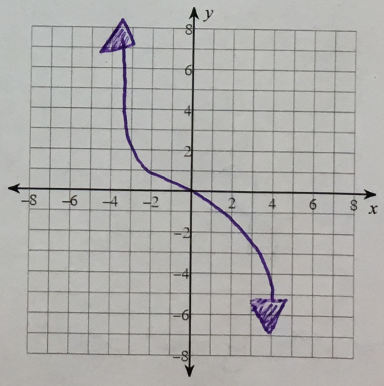


* ODD EXPONENT
* POSITIVE COEFFICIENT

AS $x \to +\infty$, $y \to +\infty$

AS $x \to -\infty$, $y \to -\infty$

4) $y = -x^3$



* ODD EXPONENT
* NEGATIVE LEADING COEFFICIENT

AS $x \to +\infty$, $y \to -\infty$

AS $x \to -\infty$, $y \to +\infty$

Describe the end behavior of each function.

5) $f(x) = -x^4 + x^3 + 4x^2 - 4$ 

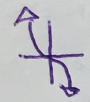
AS $x \to +\infty, y \to -\infty$

$x \to -\infty, y \to -\infty$

6) $f(x) = 2x^2 - 12x + 18$ 

AS $x \to +\infty, y \to +\infty$

$x \to -\infty, y \to +\infty$

7) $f(x) = -x^3 + 4x^2 - 4$ 

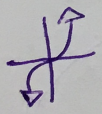
AS $x \to +\infty, y \to -\infty$

$x \to -\infty, y \to \infty$

8) $f(x) = -2x^2 - 4x - 1$ 

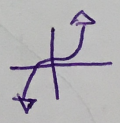
AS $x \to +\infty, y \to -\infty$

$x \to -\infty, y \to -\infty$

9) $f(x) = x^3 - 4x^2 + 2$ 

AS $x \to +\infty, y \to +\infty$

$x \to -\infty, y \to -\infty$

10) $f(x) = x^5 - 3x^3 + 3x - 1$ 

AS $x \to +\infty, y \to +\infty$

$x \to -\infty, y \to -\infty$