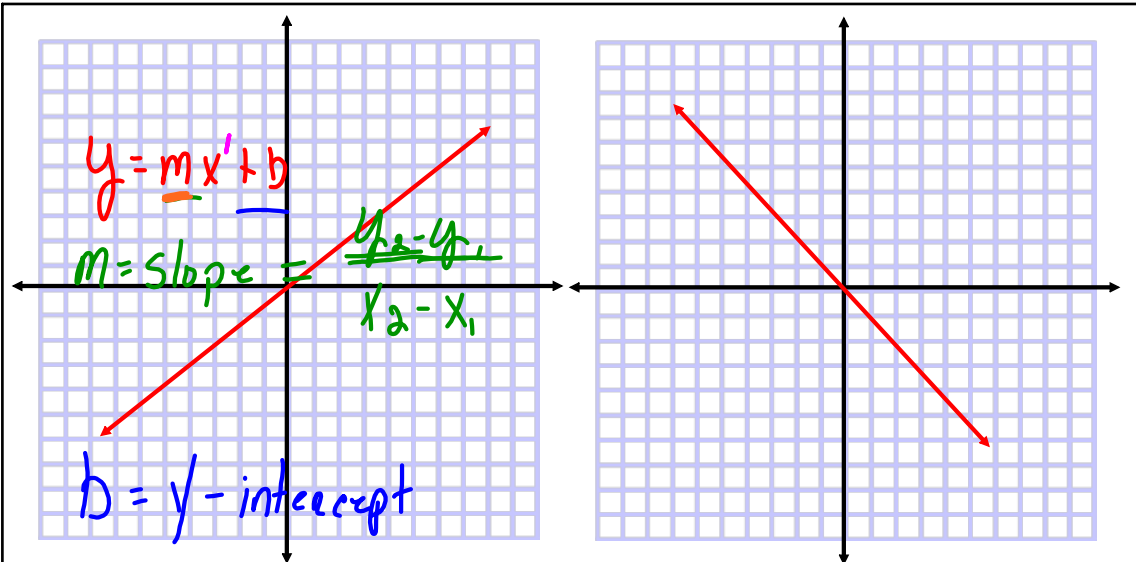


**Do NOT move the desk!!**  
**Turn your phone OFF!!**  
**Put your phone up!!**  
**Sit down!!**  
**Be quiet!!**  
**Prepare to work!!**  
**Keep your hands to yourself!!**



exponent is odd

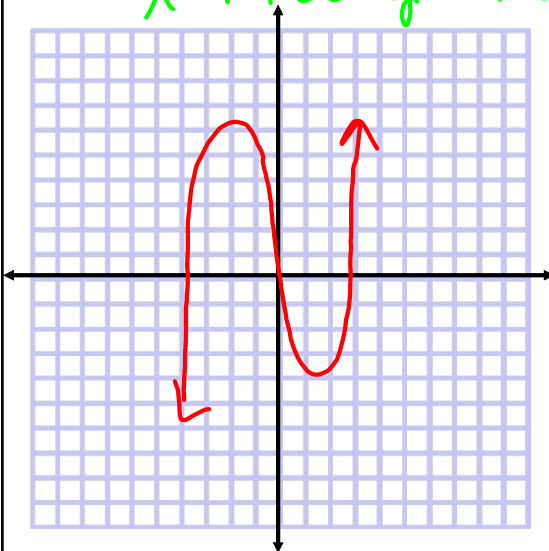
coef. of x is positive

Left End Behavior

will always be  
 $x \rightarrow -\infty \quad y \rightarrow -\infty$

Right End Behavior

will always be  
 $x \rightarrow +\infty \quad y \rightarrow +\infty$



exponent is odd

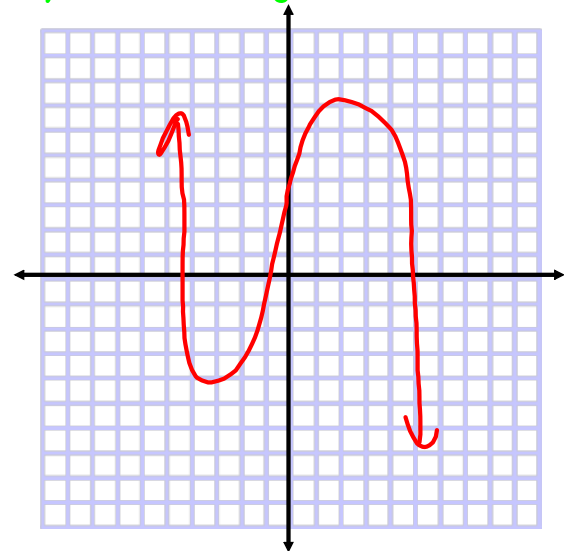
coef. of x is negative

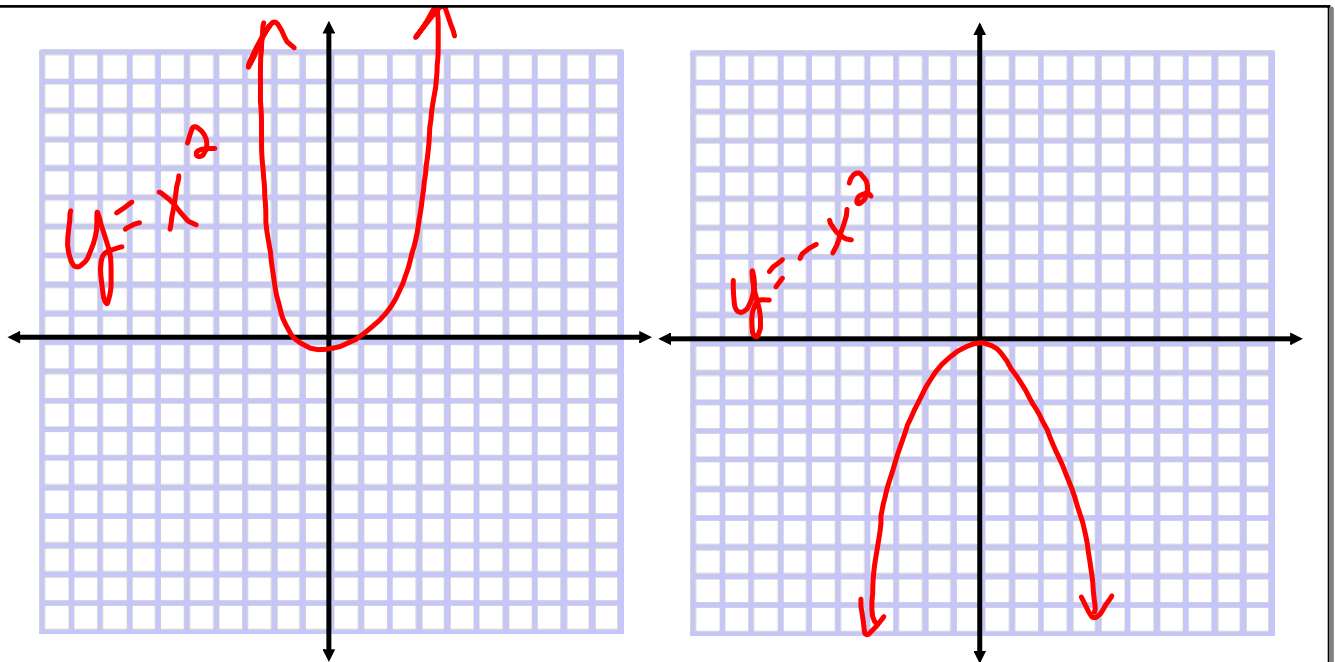
Left End Behavior

will always be  
 $x \rightarrow -\infty \quad y \rightarrow +\infty$

Right End Behavior

will always be  
 $x \rightarrow +\infty \quad y \rightarrow -\infty$





Largest Exponent is Even  
 Coef is positive

$$x \rightarrow -\infty \quad y \rightarrow +\infty$$

$$x \rightarrow +\infty \quad y \rightarrow +\infty$$

Coef is negative

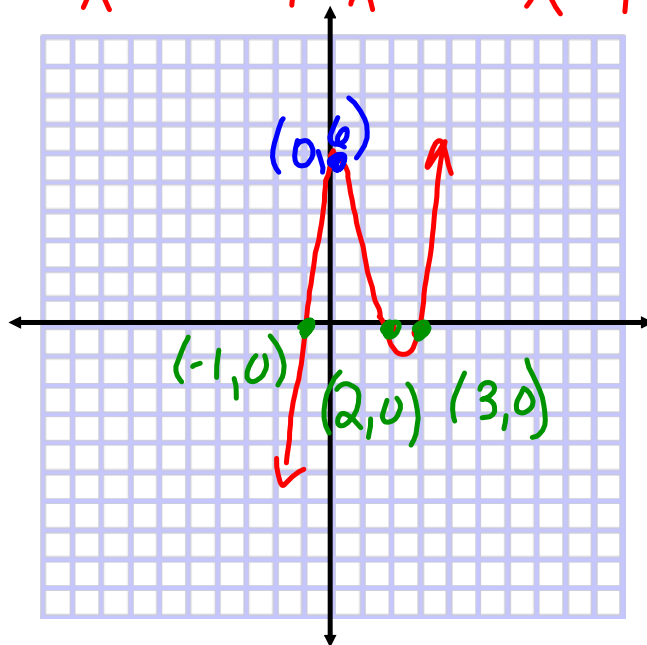
$$x \rightarrow -\infty \quad y \rightarrow -\infty$$

$$x \rightarrow +\infty \quad y \rightarrow -\infty$$

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## Characteristics of Functions

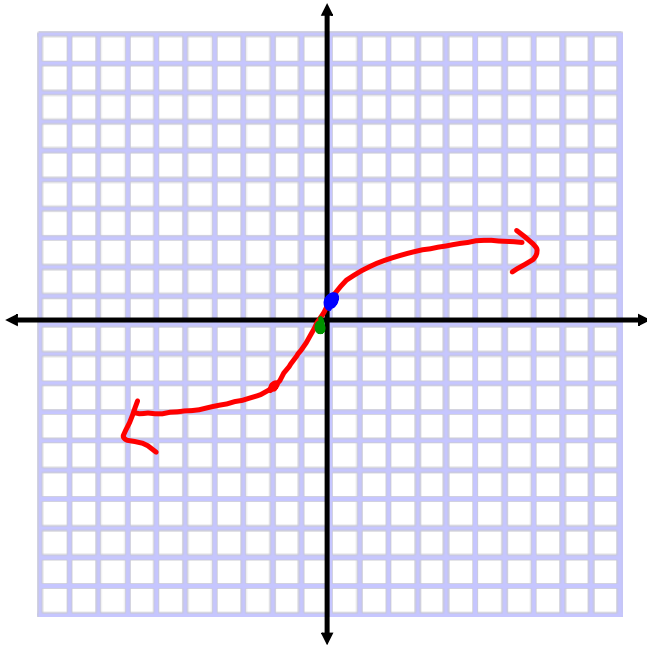
$$1) y = x^3 - 4x^2 - x + 6$$



$$x\text{-Int} \Rightarrow (-1, 0) \\ (2, 0) \\ (3, 0)$$

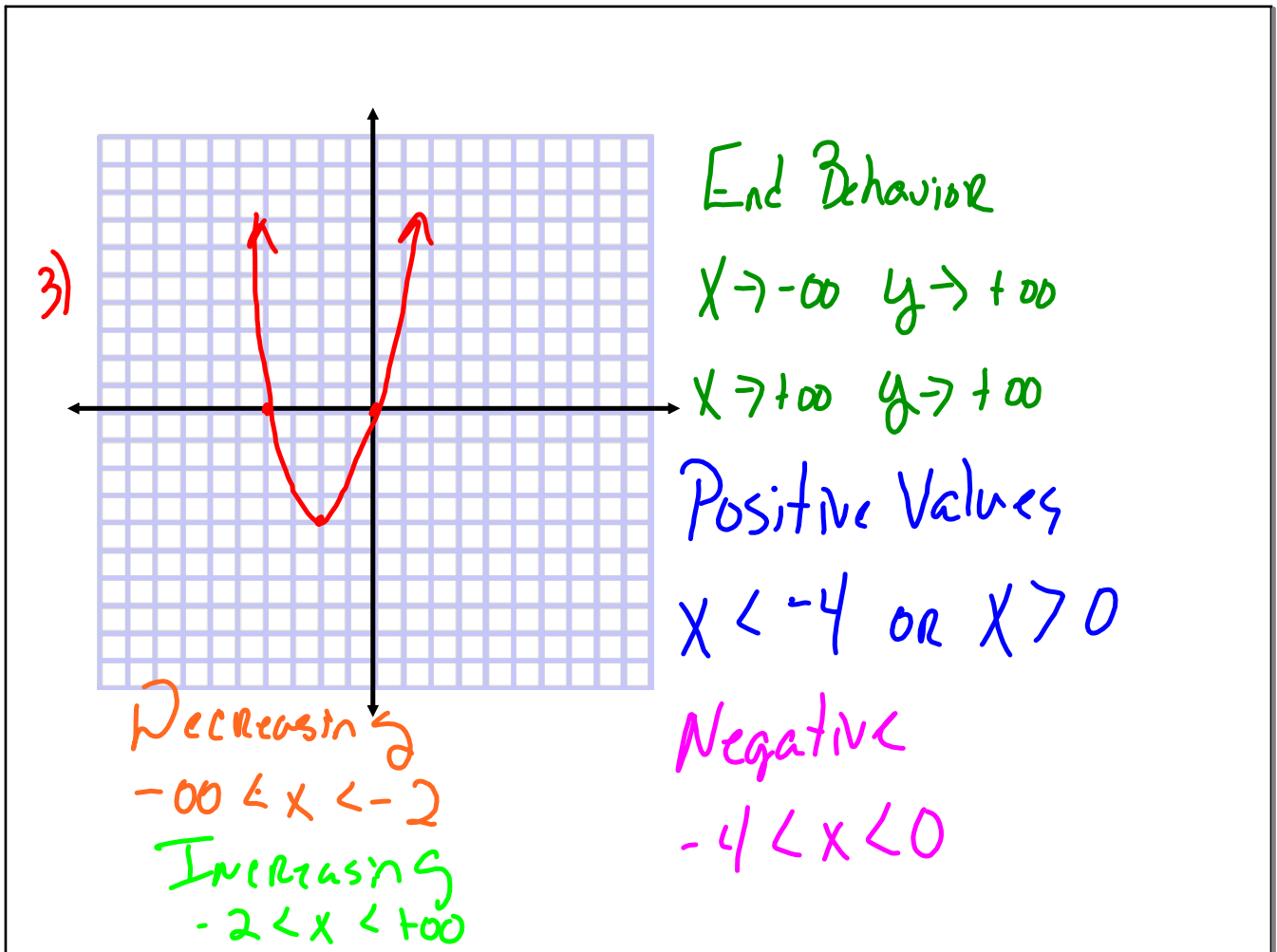
$$y\text{-Int} \Rightarrow (0, 6)$$

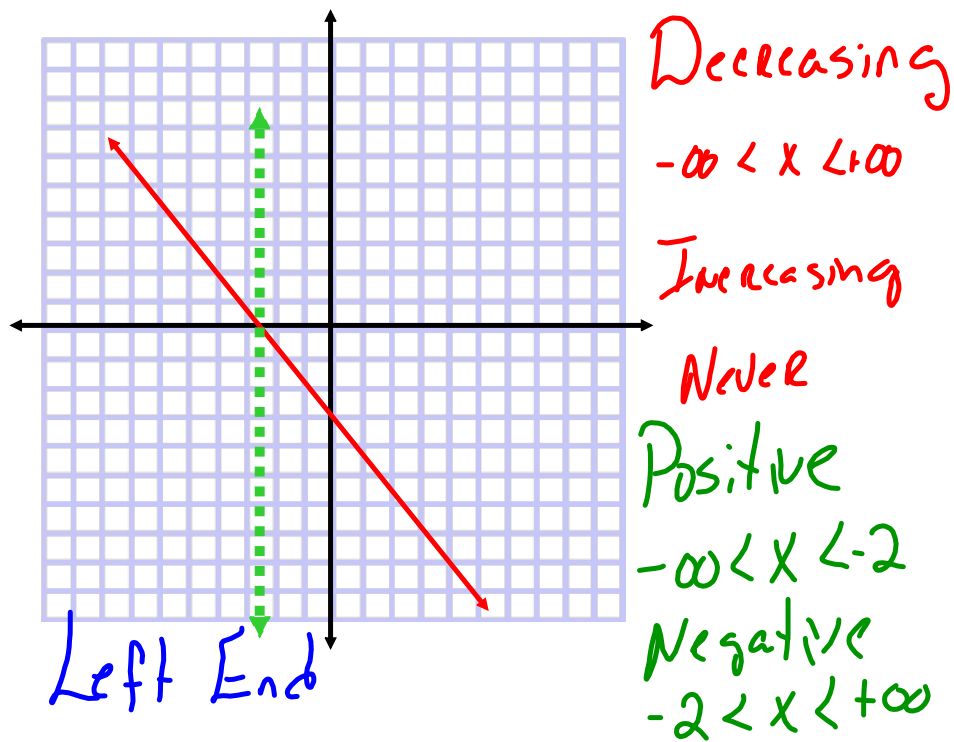
2)



x-Int  $\rightarrow (-0.25, 0)$

y-Int  $\rightarrow (0, 2)$





Left End

$$x \rightarrow -\infty \quad y \rightarrow +\infty$$

Right End

$$x \rightarrow +\infty \quad y \rightarrow -\infty$$

