

Name: Talley

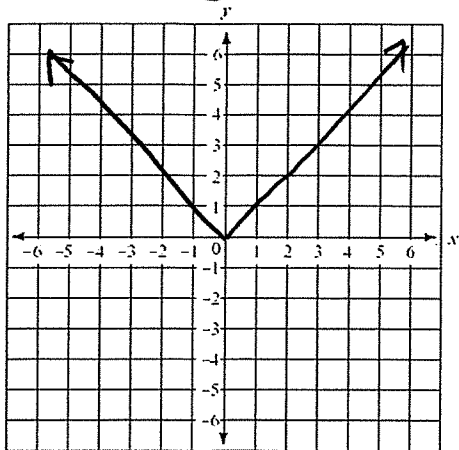
Hour: _____

Date: _____

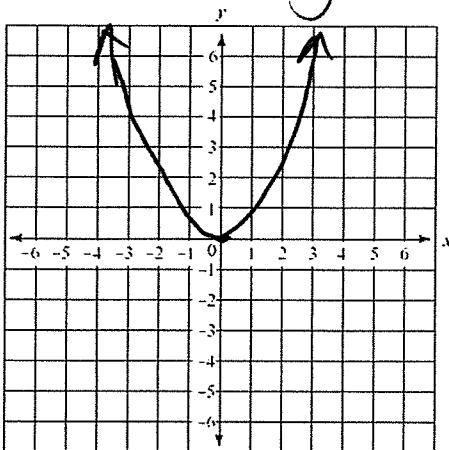
Parent Functions Test Review Guide

Write the equation of the parent function and sketch its graph.

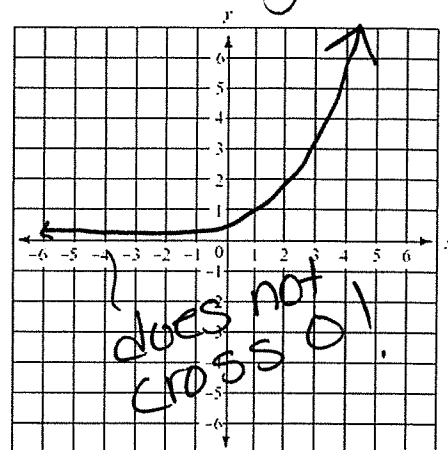
Absolute value $y = |x|$



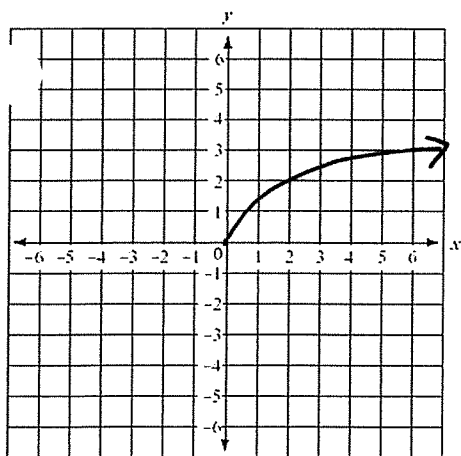
Polynomial (Quadratic) $y = x^2$



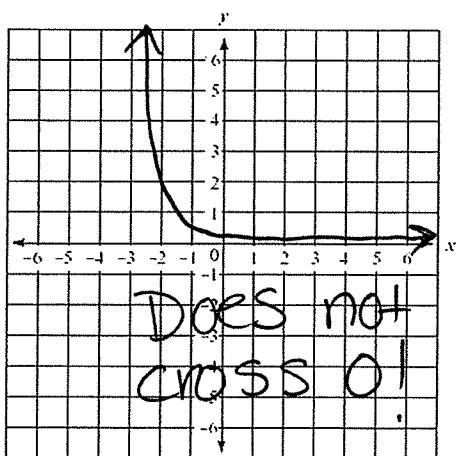
Exponential Growth $y = 2^x$



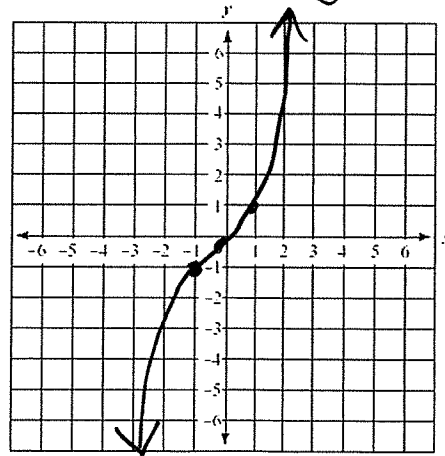
Radical (Square Root) $y = \sqrt{x}$



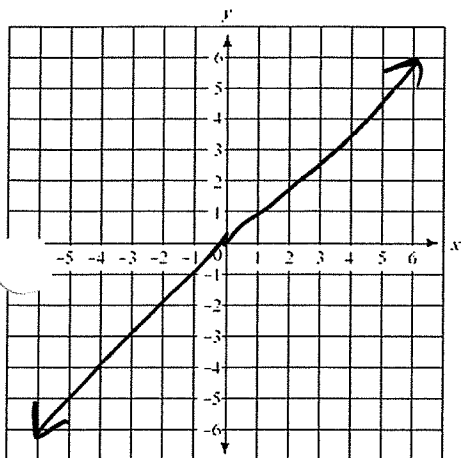
Exponential Decay $y = (1/2)^x$



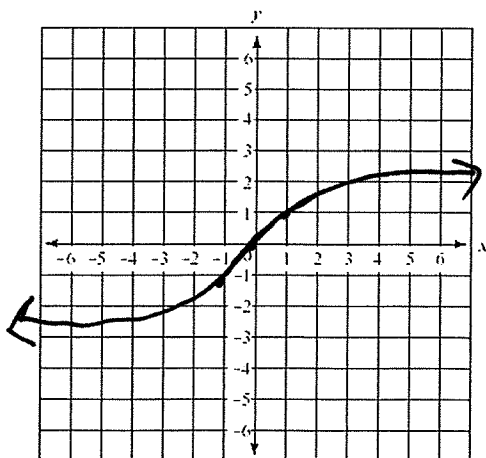
Polynomial (Cubic) $y = x^3$



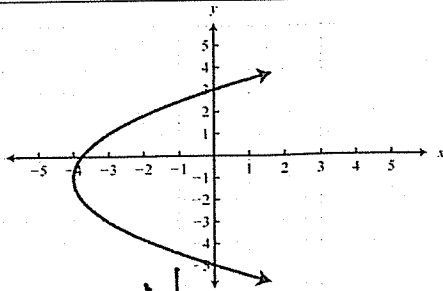
Linear $y = x$



Radical (Cubic root) $y = \sqrt[3]{x}$

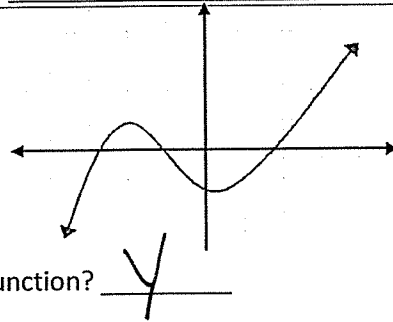


Determine if the following graphs represent functions. Describe your reasoning using the words DOMAIN and RANGE.



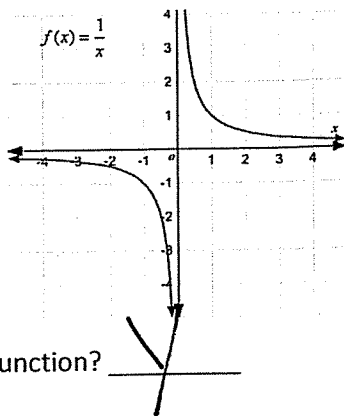
Function? N

Explanation: _____



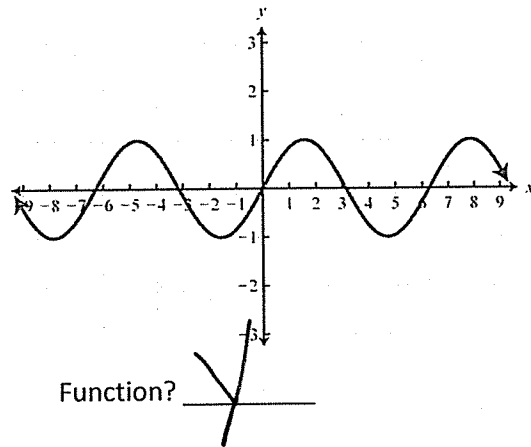
Function? Y

Explanation: _____



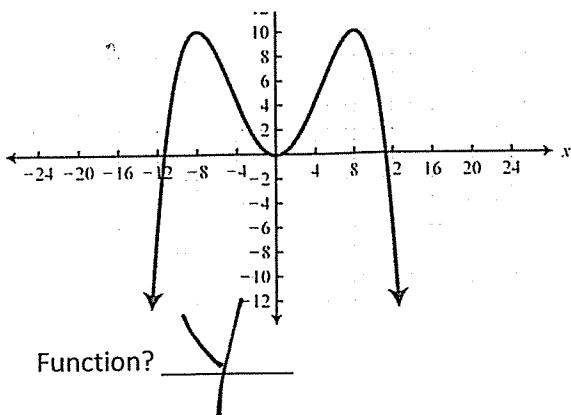
Function? Y

Explanation: _____



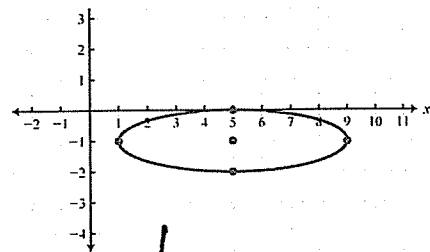
Function? Y

Explanation: _____



Function? Y

Explanation: _____



Function? N

Explanation: _____

List the key features of each of the following graphs. Use interval notation when necessary.

Domain: $(-\infty, \infty)$

Range: $(-\infty, 4]$

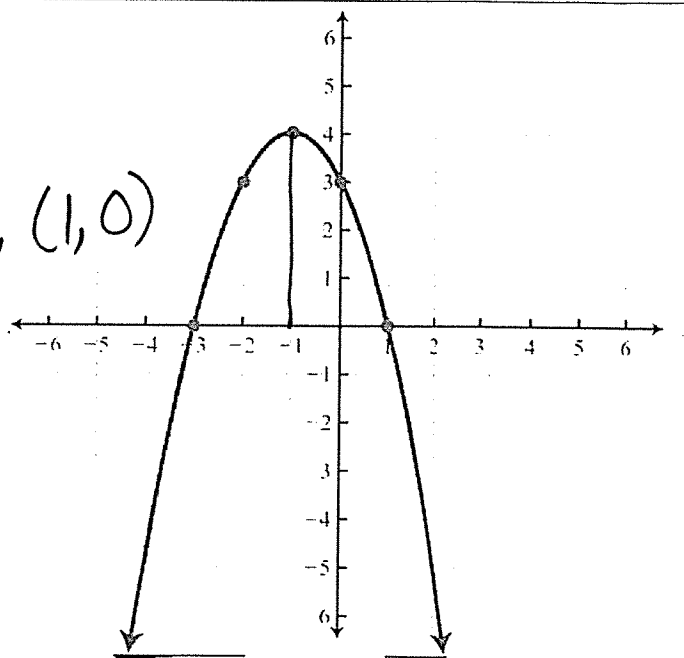
Increasing: $(-\infty, -1)$

Decreasing: $(-1, \infty)$

Constant: N/A

x-intercepts: $(-3, 0), (1, 0)$

y-intercept: $(0, 3)$



End Behavior:

Left: $x \rightarrow -\infty, y \rightarrow -\infty$

Right: $x \rightarrow \infty, y \rightarrow -\infty$

Domain: $(-\infty, 4]$

Range: $(0, \infty)$

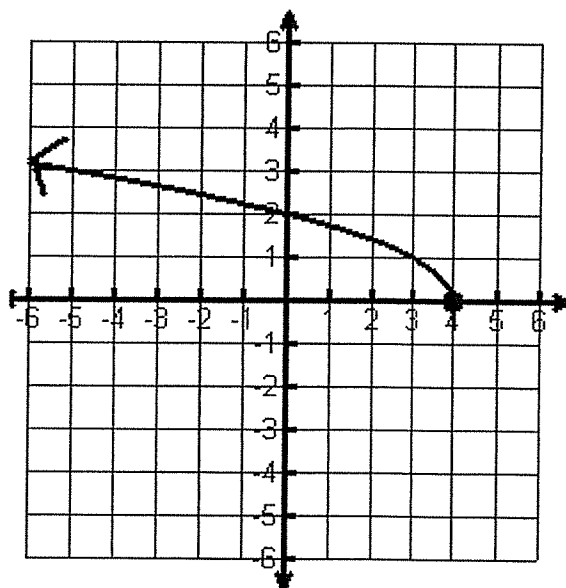
Increasing: N/A

Decreasing: $-\infty, 4$

Constant: N/A

x-intercepts: $(4, 0)$

y-intercept: $(0, 2)$



End Behavior: Left

Left: $x \rightarrow -\infty, y \rightarrow \infty$

Right: $x \rightarrow +\infty, y \rightarrow 0$

Domain: $[-6, 6]$

Constant: N/A

Range: $[-8, 9]$

Increasing: $(-3, 1)$

x-intercepts: $(-3, 0)$

y-intercepts: $(0, 5)$

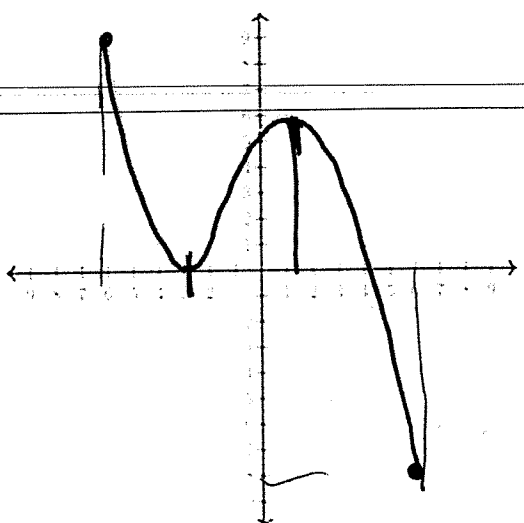
Decreasing:

$(-6, -3) \cup (1, 6)$

End Behavior:

Left: $x \rightarrow -\infty, y \rightarrow 9$

Right: $x \rightarrow \infty, y \rightarrow -8$



Domain: $(-\infty, 8)$

Constant: $(-2, 3)$

Range: $(-4, 3)$

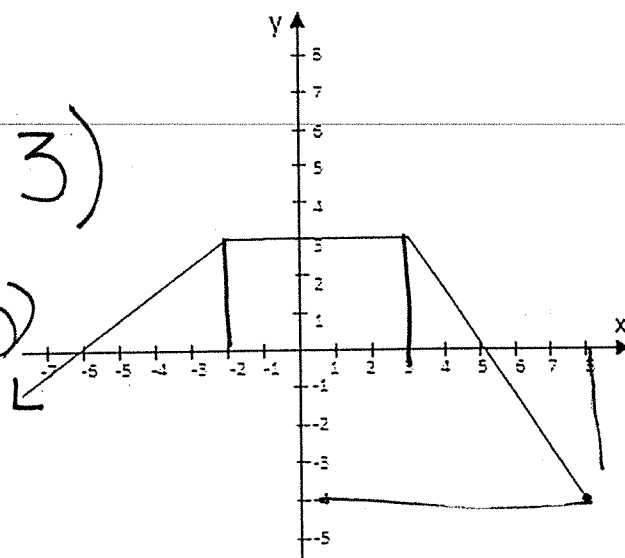
Increasing: $(-\infty, -2)$

x-intercepts: $(-6, 0), (5, 0)$

y-intercepts: $(0, 3)$

Decreasing:

$(3, 8)$



End Behavior:

Left: $x \rightarrow -\infty, y \rightarrow -\infty$

Right: $x \rightarrow \infty, y \rightarrow -4$