

# Day 4

## AFM Piecewise Functions

Name: Key

Part I. Identify whether or not the graph is a function. Then, evaluate the graph at any specified domain value. You may use your calculators to help you graph, but you must sketch it carefully on the grid!

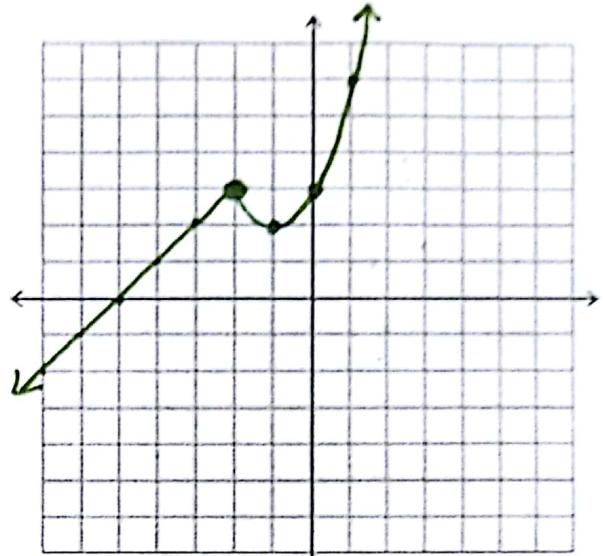
1.  $f(x) = \begin{cases} x + 5 & x < -2 \\ x^2 + 2x + 3 & x \geq -2 \end{cases}$

Function?  Yes or No

$f(3) = 18$

$f(-4) = 1$

$f(-2) = 3$



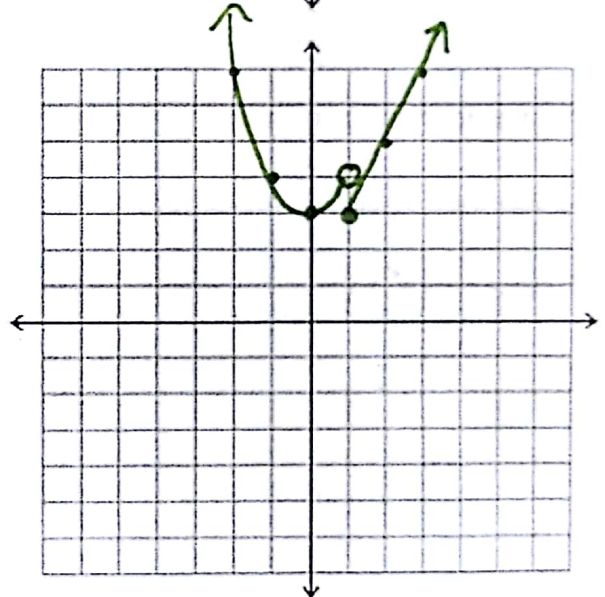
2.  $f(x) = \begin{cases} 2x + 1 & x \geq 1 \\ x^2 + 3 & x < 1 \end{cases}$

Function?  Yes or No

$f(-2) = 7$

$f(6) = 13$

$f(1) = 3$



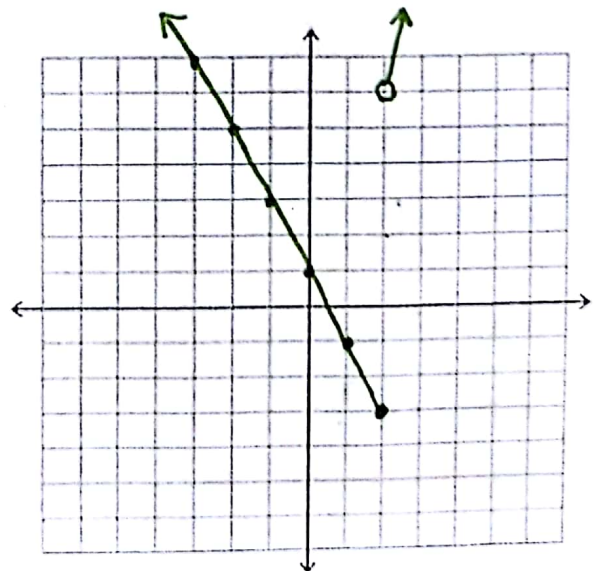
3.  $f(x) = \begin{cases} -2x + 1 & x \leq 2 \\ 5x - 4 & x > 2 \end{cases}$

Function?  Yes or No

$f(-4) = 9$

$f(8) = 36$

$f(2) = -3$



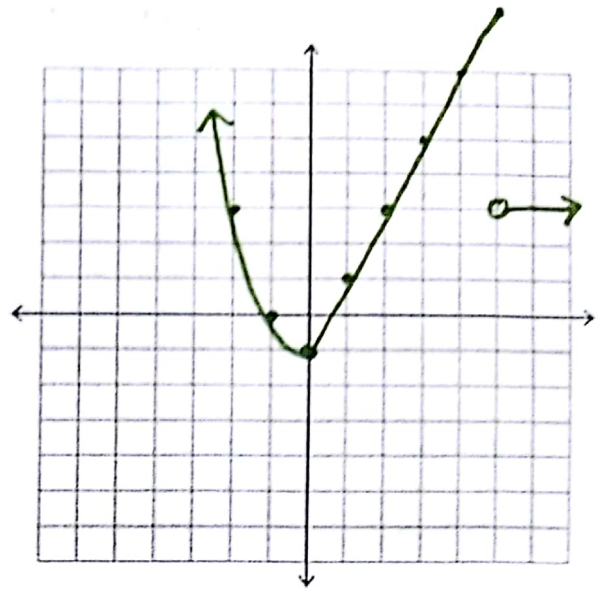
$$4. \quad f(x) = \begin{cases} x^2 - 1 & x \leq 0 \\ 2x - 1 & 0 < x \leq 5 \\ 3 & x > 5 \end{cases}$$

Function?  Yes or No

$$f(-2) = 3$$

$$f(0) = -1$$

$$f(5) = 9$$



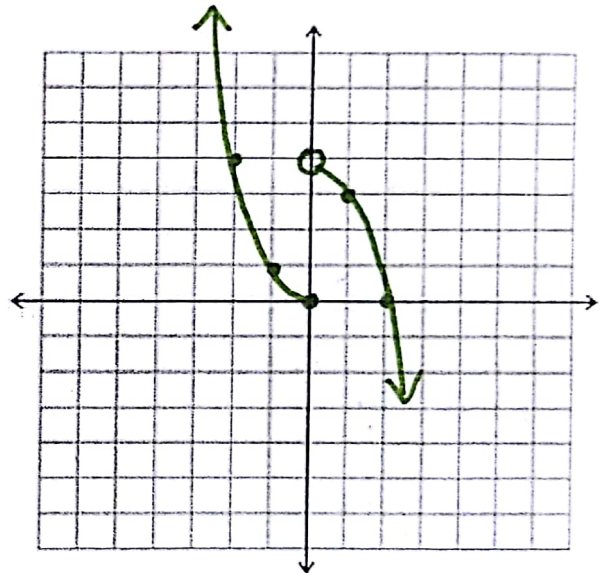
$$5. \quad f(x) = \begin{cases} x^2 & x \leq 0 \\ -x^2 + 4 & x > 0 \end{cases}$$

Function?  Yes or No

$$f(-4) = 16$$

$$f(0) = 0$$

$$f(3) = -5$$



$$6. \quad f(x) = \begin{cases} 5 & x \leq -3 \\ -2x - 3 & x > -3 \end{cases}$$

Function?  Yes or No

$$f(-4) = 5$$

$$f(0) = -3$$

$$f(3) = -9$$

