

Name: \_\_\_\_\_  
PCH

Date: \_\_\_\_\_  
Ms. Loughran

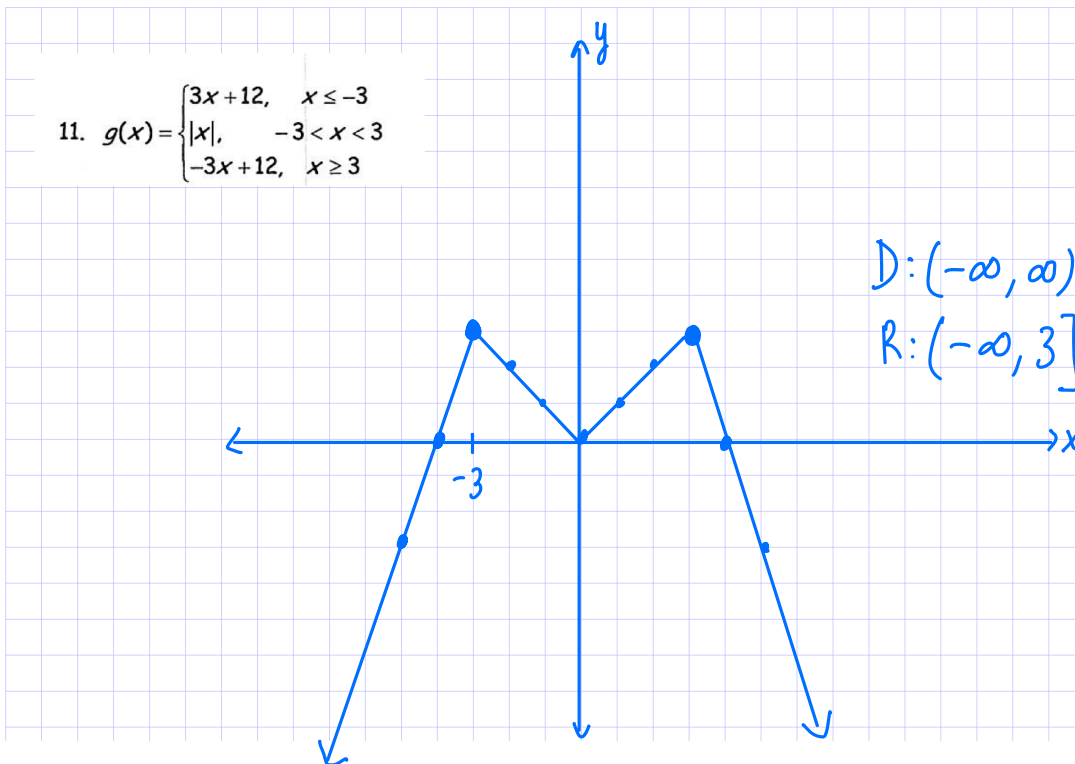
Do Now:

1. If  $2x - 3y = 3$ , then find  $\frac{16^x}{64^y}$ ?

- (A) 4      (B) 8      (C) 16      (D) 64

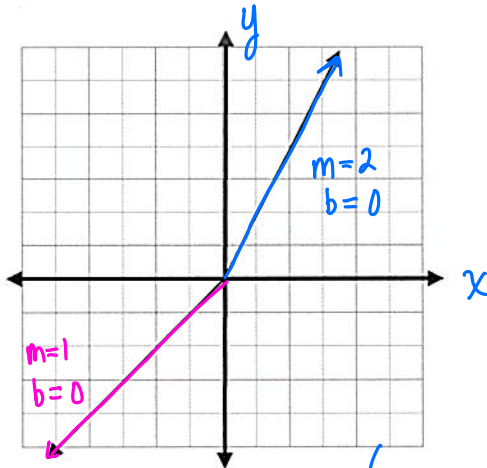
$$\frac{4^{2x}}{4^{3y}} = 4^{2x-3y}$$
$$4^3 = 64$$

And from today's sheet #11



**Part II.** Evaluate the graph at the specified domain value. Write equations for the piecewise functions whose graphs are shown below.

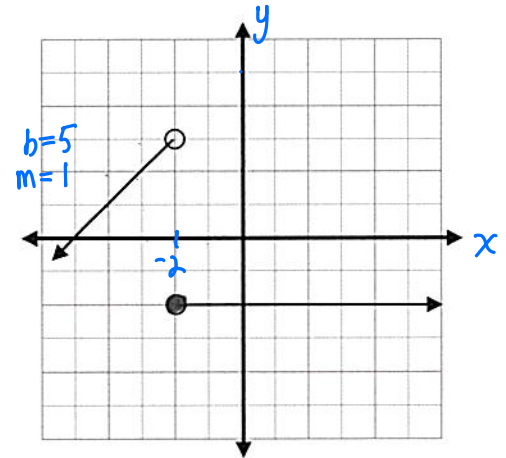
7.



$$\begin{aligned} f(2) &= 4 \\ f(-1) &= -1 \\ f(-3) &= -3 \end{aligned}$$

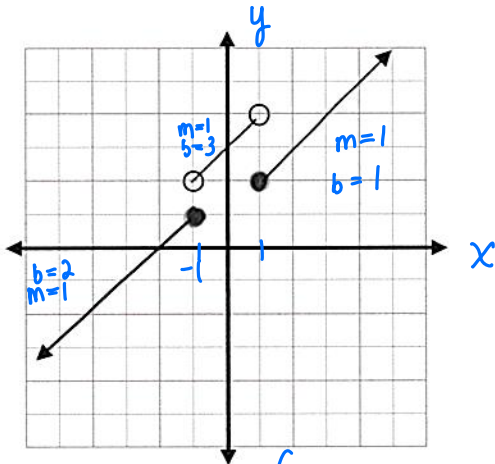
$$f(x) = \begin{cases} x & x \leq 0 \\ 2x & x > 0 \end{cases}$$

8.



$$\begin{aligned} f(-2) &= -2 \\ f(3) &= -2 \\ f(-4) &= 1 \end{aligned} \quad f(x) = \begin{cases} x+5 & x < -2 \\ -2 & x \geq -2 \end{cases}$$

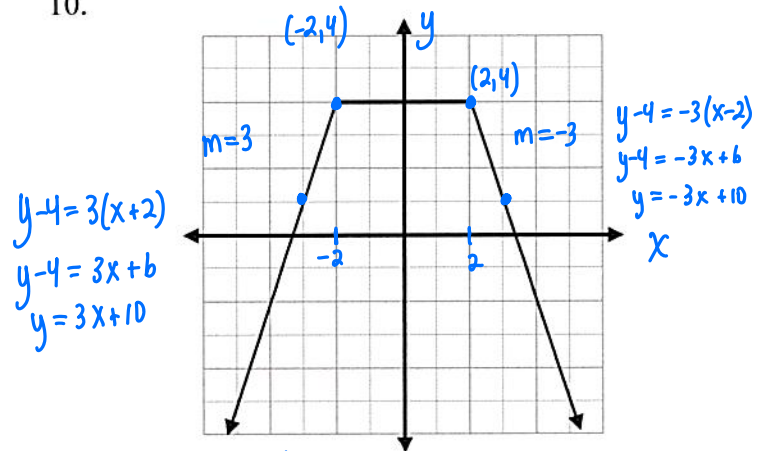
9.



$$\begin{aligned} f(2) &= 3 \\ f(-1) &= 1 \\ f(0) &= 3 \end{aligned}$$

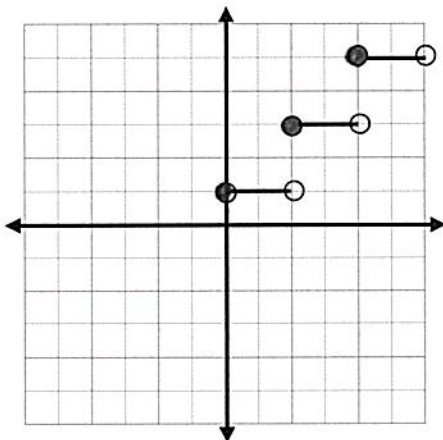
$$f(x) = \begin{cases} x+2 & x \leq -1 \\ x+3 & -1 < x < 1 \\ x+1 & x \geq 1 \end{cases}$$

10.



$$\begin{aligned} f(-2) &= 4 \\ f(3) &= 1 \\ f(-4) &= -2 \end{aligned} \quad f(x) = \begin{cases} 3x+10 & x \leq -2 \\ 4 & -2 < x < 2 \\ -3x+10 & x \geq 2 \end{cases}$$

11.



$$\begin{aligned} f(2) &= 3 \\ f(3) &= 3 \\ f(4) &= 5 \\ **f(6) &= \text{not defined} \end{aligned}$$

$$f(x) = \begin{cases} 1 & 0 \leq x < 2 \\ 3 & 2 \leq x < 4 \\ 5 & 4 \leq x < 6 \end{cases}$$

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

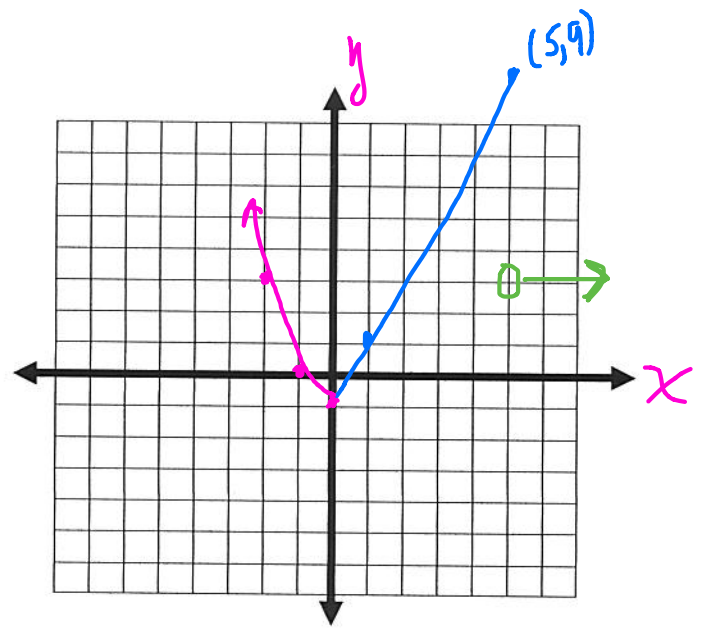
Domain:  $(-\infty, \infty)$

Range:  $[-1, \infty)$

$f(-2) = 3$

$f(0) = -1$

$f(5) = 9$



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

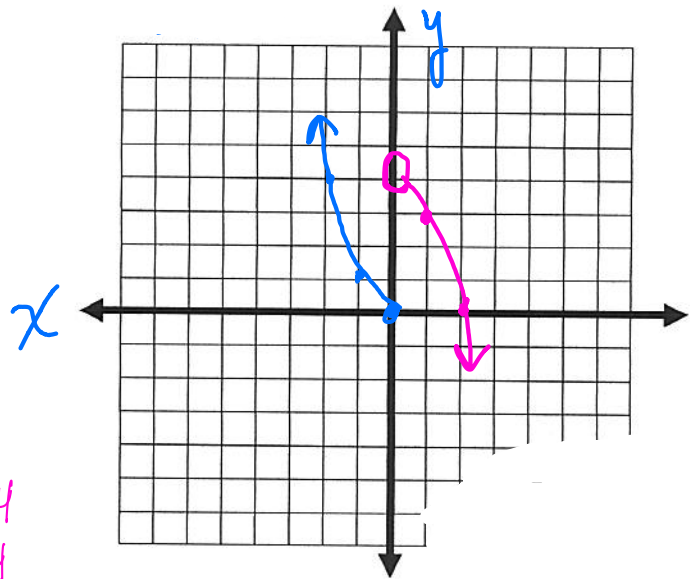
Domain:  $(-\infty, \infty)$

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

$f(-4) = 16$

$f(0) = 0$

$f(3) = -5$        $-(3)^2 + 4$   
 $-9 + 4$



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

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

Range:  $(-\infty, 3) \cup \{5\}$

$f(-4) = 5$

$f(0) = -3$

$f(3) = -9$

