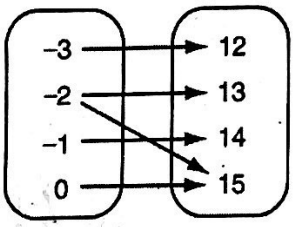
Name KEY

Functions Basics Review Worksheet

Tell whether the relation is a function. Explain.

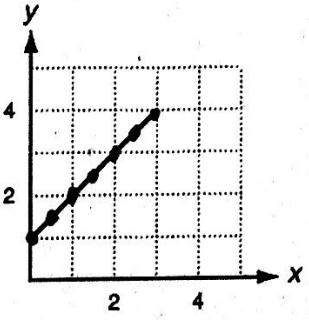
1.



Function? No

Explain: The input "-2" has multiple outputs.

2.



Function? Yes

Explain: Each input (x) has one output (y)

3.

x	y
8	8
6	6
4	4
2	6
0	8

Function? Yes

Explain: Each input (x) has one output (y)

For #4-9, use the following formulas

$f(x) = 7 - 3x$ $\quad h(x) = 2(x-1)^2$ $\quad g(x) = \frac{x-3}{-2} + 3$

4. h(4)

$h(4) = 2(4-1)^2$
$= 2(3)^2$
$= 2(9)$
$h(4) = 18$

5. f(-5) (neg × neg = pos)

$f(-5) = 7 - 3(-5)$
$= 7 + 15$
$f(-5) = 22$

6. h(-4)

$h(-4) = 2(-4-1)^2$
$= 2(-5)^2$
$= 2(25)$
$h(-4) = 50$

7. g(7) $g(7) = \frac{7-3}{-2} + 3 \rightarrow \frac{4}{-2} + 3 \rightarrow -2 + 3$
$g(7) = 1$

8. g(-1) $g(-1) = \frac{-1-3}{-2} + 3$
$= \frac{-4}{-2} + 3 \rightarrow 2 + 3 \rightarrow g(-1) = 5$

9. f(6)

$f(6) = 7 - 3(6)$
$= 7 - 18$
$f(6) = -11$

For 10 and 11, write a function for the situation. Identify the independent and dependent variables.

10. An ice rink charges $3.50 for skates and $1.25 per hour. Cost depends on # of hours

INDEPENDENT: # of hours
DEPENDENT: Total cost

$C(h) = 1.25h + 3.50$

11. Terry has 30 pieces of gum and gives 2 pieces to each of his friends.

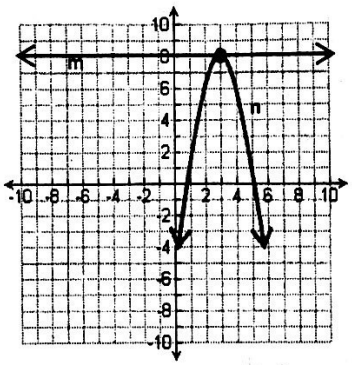
pieces left depends on # of friends

INDEPENDENT: # of friends he gives gum to
DEPENDENT: # of pieces of gum LEFT or GIVEN OUT

$G(f) = 30 - 2f$ (for gum LEFT)
or
$G(f) = 2f$ (for GIVENOUT)

Name_____

12.

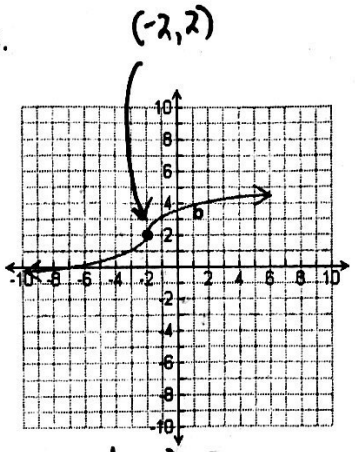


Which is greater

m(3) or n(3)?

Neither; they are the same (both = 8)

13.



Which is greater

b(-2) or c(-2)?

$b(-2) = 2$

$c(x) = -\frac{x}{2} - 4$

$c(-2) = -\left(\frac{-2}{2}\right) - 4$

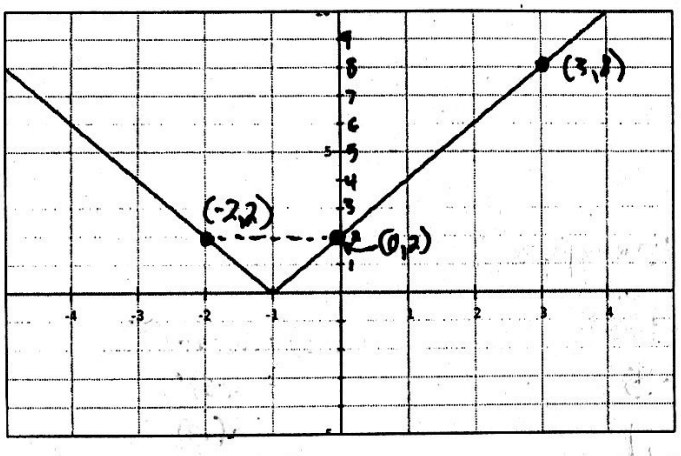
$= -(-1) - 4$

$= +1 - 4$

$c(-2) = -3$

b(-2) is greater

Use the graph below to answer #14-16



14. What does it mean if I ask: **Find *f(3)*?**

find the output (y) if the input (x) is 3.

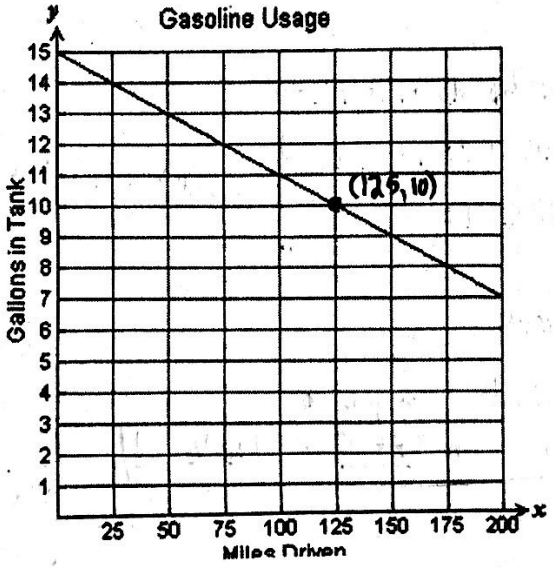
15. **Using the graph**, find *f(3)* and write the value below.

f(3)=8

16. **Using the graph**, find x when f(x)=2.

x=0 or x=-2

17.



Find $f(125)$ = 10

What does it mean in this situation?

After driving 125 miles, there are 10 gallons left in the tank.