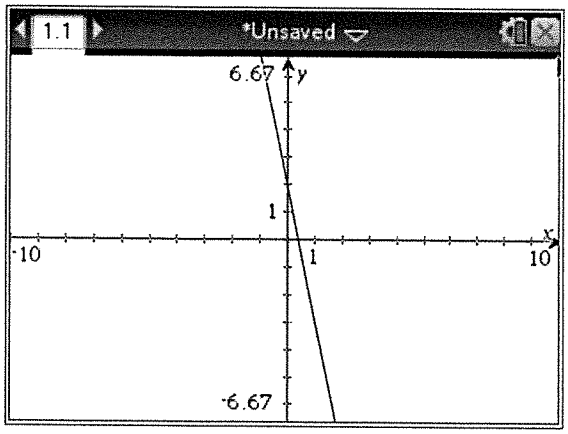
Name_____ Date_____ Hour_____

# Function Essentials Unit Study Guide

Please answer the following questions.

1.




Function or Not a Function

Why or Why Not?

_____

_____

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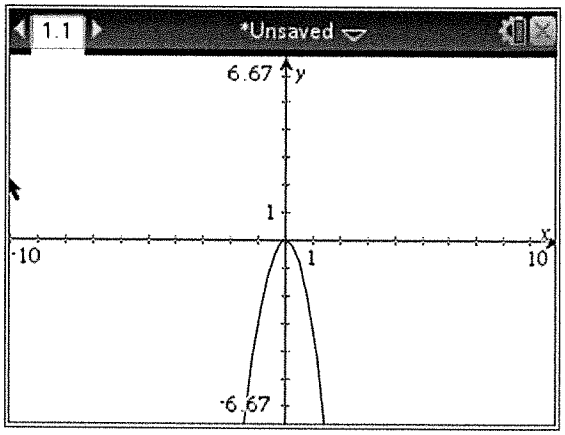
2.




Function or Not a Function

Why or Why Not?

_____

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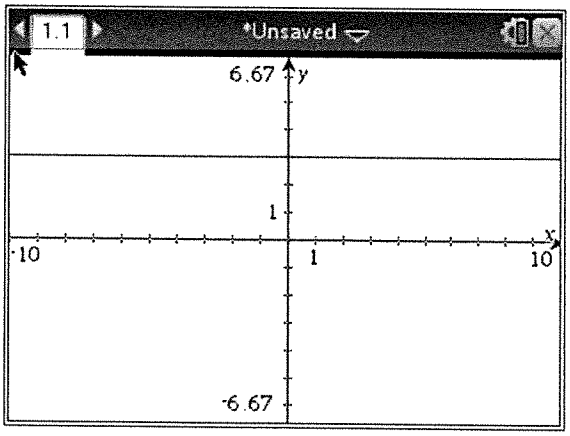
3.




Function or Not a Function

Why or Why Not?

_____

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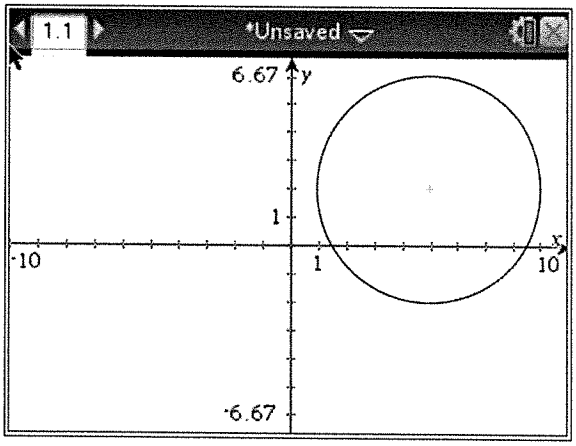
4.




Function or Not a Function

Why or Why Not?

_____

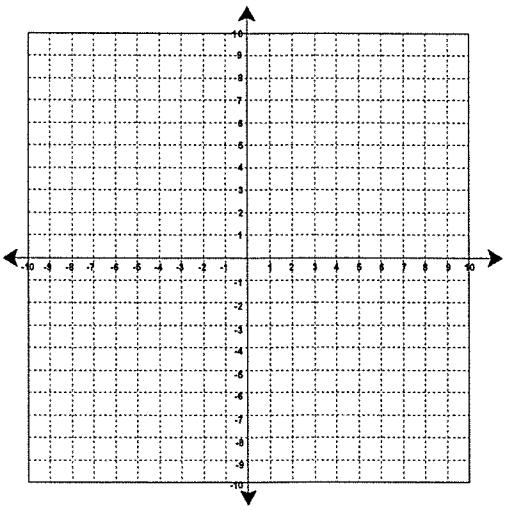
_____

_____

5. Determine if the following relation is a function or

6. Determine if the following relation is a function or

not.
{(0,4), (-4,5) , (6,2), (6, 5)}



Function or Not a Function

Why or Why Not?

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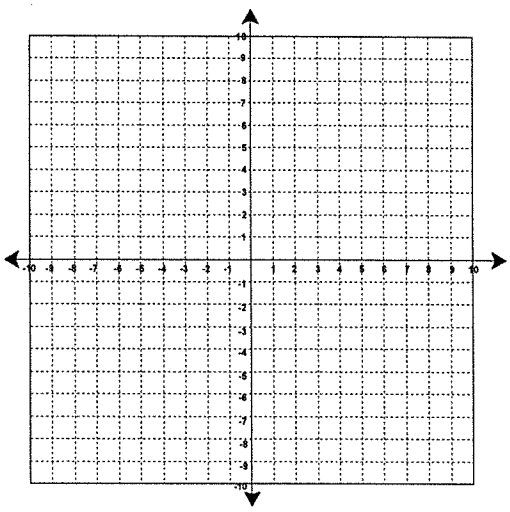
not.
{ (-2,5), (-1,6), (8,4), (7,9), (-2,1)}



Function or Not a Function

Why or Why Not?

_____

_____

_____

7. State the domain (follow the rules!)

{ (-2,5), (-1,6), (8,4), (7,9), (-2,1)}

8. State the range (follow the rules!)

{(4,2), (0,4), (-5,1), (-8,-2), (7,-4)}

9. Evaluate the following function

If $f(x) = 4x - 2$, then find $f(-\frac{1}{2})$

10. Evaluate the following function

If $f(x) = -6x^2 + x - 3$, then find $f(5)$

11. Given the function H(s), where H is the height of a baseball and s is the time in seconds, choose all the appropriate domain values. Circle ALL that apply

a. $\frac{3}{5}$ b. $-\frac{1}{4}$ c. 1

d. $-6$ e. 0.4 f. $-7.5$

12. Make a table for the function $f(x) = 5x - 2$. Use the domain values of 0, 5, 1, -4, and -2.

| x | f(x) |
|---|---|
| | |
| | |
| | |
| | |
| | |

13. For the following input/output table, determine which of the following ordered pairs are solutions to

14. For the following input/output table, determine which of the following ordered pairs are solutions to

the function: $h(x) = -5x + 10$

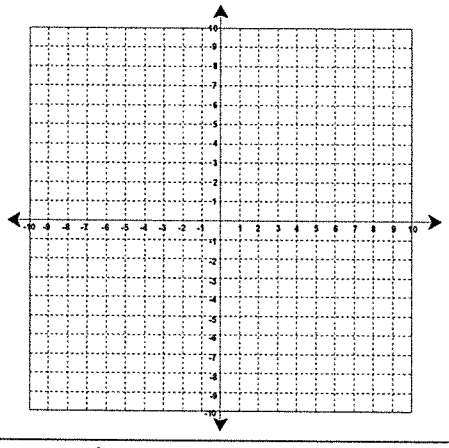
| x | h(x) | Yes or No |
|---|---|---|
| -2 | 0 | |
| -1 | 15 | |
| 0 | -10 | |
| 2 | 0 | |
| 5 | -35 | |
| 6 | -20 | |

the function: $h(x) = x^2 - 5$

| x | h(x) | Yes or No |
|---|---|---|
| -2 | -1 | |
| -1 | -6 | |
| 0 | -5 | |
| 0.5 | -5.5 | |
| 2 | 1 | |
| 6 | 31 | |

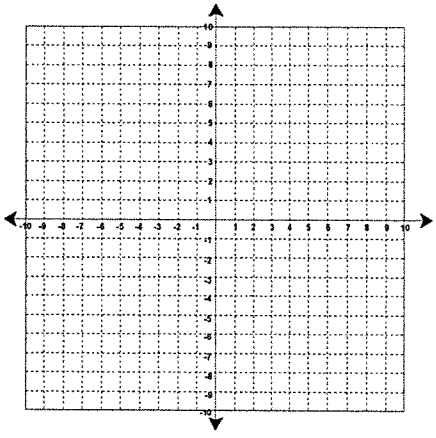
15. Make a table of values and graph the function
y = 2x-5

| x | f(x) |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |



16. Make a table of values and graph the function
y= -3x+2

| x | f(x) |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |



17. Write in function notation
y = 5x-3

18. Write in function notation
y = -2x+6

**Functions Essentials STUDY GUIDE** NAME:_____

DATE:_____PERIOD:_____

**1.** Evaluate the following expressions given the functions below:

$g(x) = -3x + 1$ $f(x) = x^2 + 7$ $h(x) = \frac{12}{x}$ $j(x) = 2x + 9$

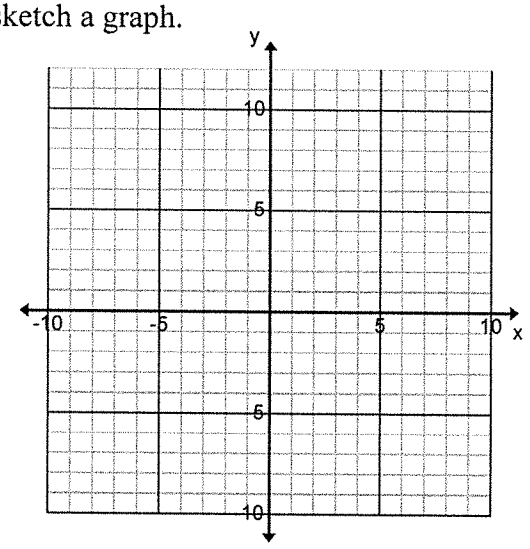
**a.** $g(10) =$ **b.** $f(3) =$ **c.** $h(-2) =$

**d.** $j(7) =$ **e.** $h(a)$ **f.** $g(b+c)$

**h.** Find $x$ if $g(x) = 16$ **i.** Find $x$ if $h(x) = -2$ **j.** Find $x$ if $f(x) = 23$

**2.** Given $f(x) = 3 - 4x$. Fill in the table and then sketch a graph.

| $x$ | $f(x)$ |
|---|---|
| -2 | |
| -1 | |
| 0 | |
| 1 | |
| | -9 |



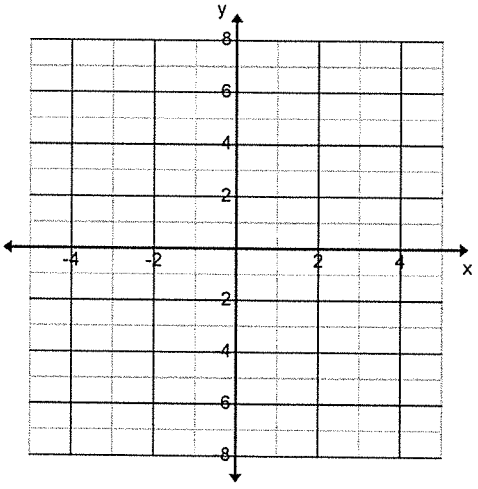

**3.** Translate the following statements into coordinate points, then plot them!

**a.** $f(-1) = 1$

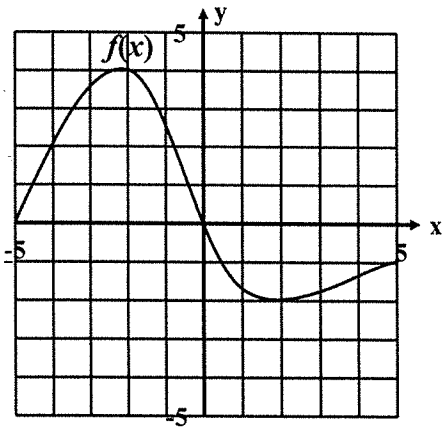
**b.** $f(2) = 7$

**c.** $f(1) = -1$

**d.** $f(3) = 0$



**4.** Given this graph of the function f(x):

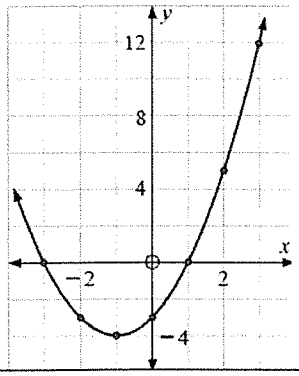



Find:

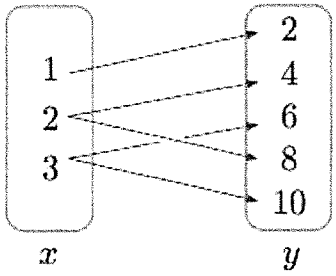
**a.** $f(-4) =$ **b.** $f(0) =$ **c.** $f(3) =$

**d.** $f(-5) =$ **e.** $x$ when $f(x) = 2$ **f.** $x$ when $f(x) = 0$

**5.**

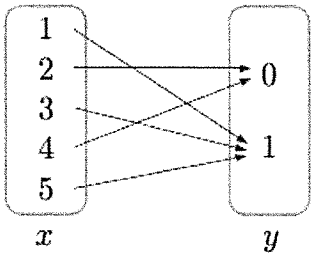
| | |
|---|---|
|   | Function? (yes or no)<br><br>Domain<br><br>Range |

**6.**




Function? Yes No

Domain : Range :




Function? Yes No

Domain : Range :

**BONUS:**
Find an equation of a linear function given $h(1) = 6$ and $h(4) = -3$.