



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

## Foundations – Semester 1 ... Are you Ready?!

## UNIT 1

Can I ... classify number sets?? Circle one: YES or NO

1. Check all the names that apply for the number.

	Natural	Whole	Integer	Rational	Irrational
$\sqrt{31}$					
2.8					
142					

Can I ... Use order of operations to simplify expressions? Circle one: YES or NO

2.  $2[(10 \div 2) - 3]$

3.  $18 \div 9 + 4 \times 3$

Can I ... Solve linear equations? Circle one: YES or NO

Solve the equation for the given variable. Check your answer! 😊



4.  $-2x - 1 = 6$

5.  $\frac{x}{-4} - 1 = 15$

6.  $4x + 10 = 2(2x + 5)$

7.  $-5(x - 2) + 4x = 12 + x$

Can I ... Solve proportions? Circle one: YES or NO

Solve the proportion for the given variable.



8.  $\frac{x}{4} = \frac{3}{12}$

9.  $\frac{x-2}{-1} = \frac{3}{2}$

Can I ... Solve equations involving percentages? Circle one: YES or NO

10. What number is 12% of 82?

11. 36 is what percent of 94?



12. The Apple Store is having a HUGE holiday sale! An iPad usually costs \$450.00, but the sale is 35% off today only! It is the PERFECT gift for your best friend. How much did you pay for the iPad after the discount??

Can I ... Solve literal equations? Circle one: YES or NO

Solve for y in terms of x.

13.  $-14x - 2y = 26$

14.  $12 = -2x - y$



## UNIT 2

Can I ... Solve absolute value equations? Circle one: YES or NO

Solve for x and check your answer.

15.  $|6x| = 36$

16.  $4|x + 8| - 2 = 54$

Can I ... Given a graph, write the solution in both inequality notation and interval notation. Circle one: YES or NO

Express the solution to the inequality in both inequality notation and interval notation.



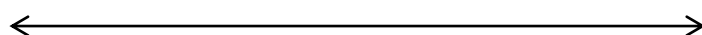
Inequality Notation: \_\_\_\_\_

Interval Notation: \_\_\_\_\_

Can I ... Given an inequality, graph it on the number line? Circle one: YES or NO

Graph the inequality.

18.  $x \leq 7$



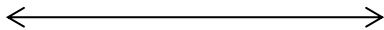
Can I ... Solve and Graph Linear Inequalities?

Circle one: YES or NO

Solve, graph, and give the solution in both inequality and interval notation.

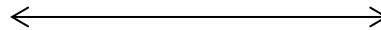
19.  $-3x + 6 > 9$

20)  $x + 5 - 8x \leq 7(1 - x)$



Inequality Notation: \_\_\_\_\_

Interval Notation: \_\_\_\_\_



Inequality Notation: \_\_\_\_\_

Interval Notation: \_\_\_\_\_

Can I ... Given a graph, write the solution in both inequality notation and interval notation? Circle one: YES or NO

Express the solution to the inequality in both inequality notation and interval notation.



Inequality Notation: \_\_\_\_\_

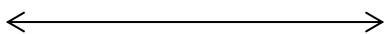
Interval Notation: \_\_\_\_\_

Can I ... Solve and Graph Compound Inequalities? Circle one: YES or NO

Solve, graph, and give the solution in both inequality and interval notation.

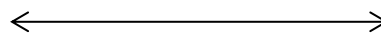
22)  $12x + 2 < 14$  and  $-7x - 6 \leq 15$

23)  $x + 13 < 8$  OR  $-8x > -40$



Inequality Notation: \_\_\_\_\_

Interval Notation: \_\_\_\_\_



Inequality Notation: \_\_\_\_\_

Interval Notation: \_\_\_\_\_



### UNIT 3

Can I ... Use functions to find inputs and outputs? Circle one: YES or NO

Use the functions below to answer the questions.

$f(x) = -7x + 1$ ,  $m(x) = x^2 - 9$ , and  $j(x) = |x| + 7$

24.  $f(-2) =$

25.  $j(-7) =$

26.  $m(-2) =$

27. Find  $x$  when  $f(x) = -20$

Can I ... Use a table, to answer questions about inputs/outputs of functions? Circle one: YES or NO

Use the table below to evaluate the following:

$x$	$f(x)$	$g(x)$	$h(x)$
-1	2	3	-1
0	0	2	1
1	1	1	3
2	0	-1	5
3	2	-1	7

28.  $f(2) =$

29.  $g(-1) =$

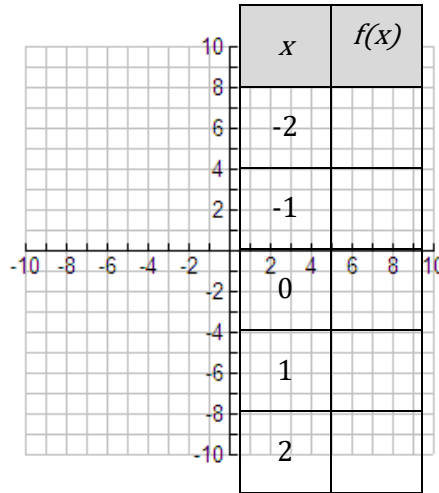
30. Find  $x$  when  $h(x) = 5$

Can I ... Graph a function given a verbal expression?

Circle one: YES or NO

31.  $f(x)$ : double the input and then add 1

Function:  $f(x) =$



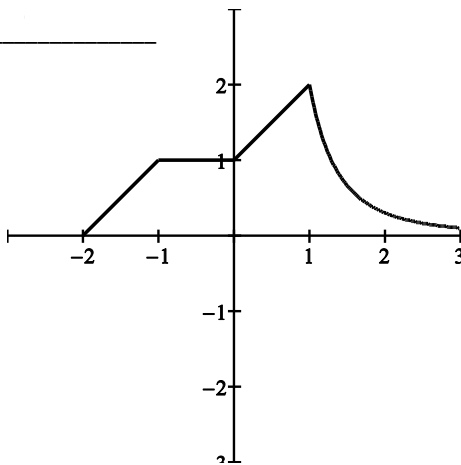
Can I ... Use a graph to evaluate a function?

Circle one: YES or NO

32.  $f(1) =$  \_\_\_\_\_

33. Find  $x$  when  $f(x) = 2$

$x =$  \_\_\_\_\_



Can I ... Find the domain, range, and end behavior given a graph?

Circle one: YES or NO

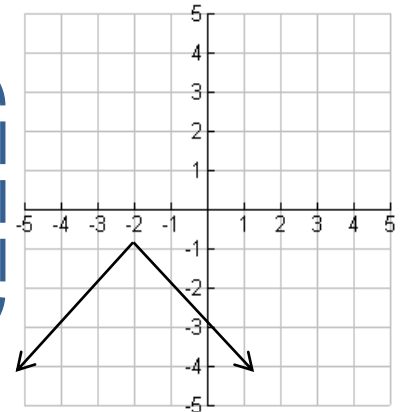
34.

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

As  $x \rightarrow -\infty, y \rightarrow$  \_\_\_\_\_

As  $x \rightarrow \infty, y \rightarrow$  \_\_\_\_\_



Can I ... Calculate slope use coordinate points and a graph?

Circle one: YES or NO

35. Find the slope given the two points:

(4, -8) and (4, -9)

Can I ... Determine if a point is a solution to the equation?

Circle one: YES or NO

36. Is the ordered pair (3, -4) a solution

to the equation  $4y + x = 8$

