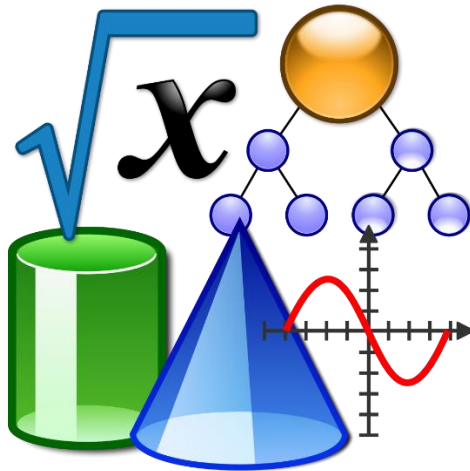


# NPS Learning in Place

## MATH 6/6H



Name: \_\_\_\_\_ School: \_\_\_\_\_ Teacher: \_\_\_\_\_

### May 18 – June 5

<b>Week 1</b>	<ul style="list-style-type: none"><li>• <b>Proportional Relationships</b></li></ul>
<b>Week 2</b>	<ul style="list-style-type: none"><li>• <b>Proportional Relationships</b></li></ul>
<b>Week 3</b>	<ul style="list-style-type: none"><li>• <b>Equations</b></li><li>• <b>Inequalities</b></li></ul>

# Week 1

## Day 1

Focus:

SOL 6.12 The student will

- represent a proportional relationship between two quantities, including those arising from practical situations

You will show you can do this skill by making a table of equivalent ratios to represent a proportional relationship when you have been given a ratio.

### Notes:

Let's see what you remember from our vocabulary. Write your definition to the words below. You just need to show that you know what the words mean:

- Ratio: \_\_\_\_\_ .
- Equivalent Ratios: \_\_\_\_\_  
\_\_\_\_\_ .
- Ratio Table: \_\_\_\_\_  
\_\_\_\_\_ .
- Proportional: \_\_\_\_\_ .

### Example #1

Create a ratio table for 3 cats to 4 dogs.

Remember to complete the table each value will need to be multiplied by the same number.

Cats	3				
Dogs	4				

		• 2	• 3	• 4	• 5
Cats	3	6	9	12	15
Dogs	4	8	12	16	20

- Notice that it is always the original ratio that we used our multiplier on. This keeps the table relevant to that original ratio.

### Example #2

Create a ratio table for  $\frac{12 \text{ hotdogs}}{8 \text{ hamburgers}}$ .

Did you notice that this ratio can be simplified?

- Since they are both even, you may have noticed that 2 goes into (*is a factor of*) both numbers.  $\frac{12 \div 2}{8 \div 2} = \frac{6}{4}$  Two will still go into both of them...  $\frac{6 \div 2}{4 \div 2} = \frac{3}{2}$

- If you are really good at math, you may have noticed that 4 is a factor of both numbers.  $\frac{12 \div 4}{8 \div 4} = \frac{3}{2}$
- In the end, both methods get us to  $\frac{3hotdogs}{2hamburgers}$

Now we can make our table...

Since 3 to 2 is now our simplest ratio, we will use that to fill the last two rows.

Hotdogs	Hamburgers	
12	8	
6	4	÷ 2
3	2	÷ 4

Hotdogs	Hamburgers	
12	8	
6	4	÷ 2
3	2	÷ 4
9	6	• 3
15	10	• 5

1) Create a ratio table for: 7 Chocolate bars to 5 bags of gummy candy

Chocolate Bars					
Gummy Candy					

2) Create a ratio table for: 14 girls to 12 boys

Girls					
Boys					

3) Create a ratio table for: 12 trees to 16 bushes

Trees					
Bushes					

Definitions:

- Ratio: A comparison of any two quantities.
- Equivalent Ratios: Any number of ratios that simplify to the same ratio.
- Ratio Table: A table of values showing equivalent ratios.
- Proportional: A statement showing that two ratios are equal.

## Day 2

### Focus:

SOL 6.12 The student will

- a. represent a proportional relationship between two quantities, including those arising from practical situations

You will show you can do this skill by making a table of equivalent ratios to represent a proportional relationship when you have been given a practical situation.

#### Notes:

The only difference between Day 1 and Day 2 is that your ratio is presented in a word problem. Let's take a look at an example.

#### Example:

Shawn has decided to start a recycling program. He thinks that for every two hours he spends picking up recyclables, he should be able to collect three bags worth of material. Make a ratio table showing this relationship.

		• 2	• 3	• 4	• 5
Hours	2	4	6	8	10
Bags of Recycling	3	8	9	12	15

1) Delilah says that she can run 15 yards every 3 seconds. Make a ratio table showing this relationship.


2) After working on IXL, Mike realizes that he is finishing four problems every fifteen minutes. Make a ratio table showing this relationship.




9) Halle is selling candy for a school fundraiser. It takes her three hours to sell her package of 60 lollipops. Make a ratio table showing this relationship.


10) A photographer can take 25 students' pictures in 45 minutes. Make a ratio table showing this relationship.


### Day 3

#### Focus:

SOL 6.12 The student will

- b. determine the unit rate of a proportional relationship and use it to find a missing value in a ratio table

You will show you have learned this skill by calculating the unit rate for a table of values, writing the unit rate from a verbal statement and identifying the unit rate in word problem.

#### Notes:

##### Example #1

Jaquan earns \$8 per hour at his new job.

- Our units will be dollars and hours. Dollars will be our numerator and hours will be our denominator.
- Our Unit Rate will be  $\frac{\$8}{1\text{hour}}$

##### Example #2

Cynthia needs to ride her bike to the store. The store is 5 miles away and it takes her 4 minutes to get there (It is a very fast bicycle.). What is the unit rate that represents how fast she is going?

- To calculate a unit rate, write the ratio in fraction form and divide both the numerator and denominator by the denominator.

$$\frac{5\text{miles}}{4\text{min}} = \frac{5 \div 4}{4 \div 4} = \frac{1.25\text{miles}}{1\text{min}}$$

Example #3

Frank is watching a pool fill with water. The table shows how many minutes have passed as the pool fills with gallons of water. What is the unit rate for the number of gallons of water filling the pool every minute?

Gallons of Water	10	20	35
Minutes	2	4	7

- Take any of the rates in fraction form and use it to find the unit rate.

$$\frac{10\text{gallons}}{2\text{min}} = \frac{10 \div 2}{2 \div 2} = \frac{5\text{gallons}}{1\text{min}}$$

1) Write the unit rate represented below.  
Patrick finishes four pages of homework in one hour.

2) Identify the unit rate represented by the table.

Slices of pepperoni	8	12	64
Slices of pizza	2	3	8

3) Tremaine just got a new stack of comic books. It takes him 75 minutes to read five of his new comics. What is the unit rate for how fast he reads comic books?

4) Jaxon just finished his math test. He had 20 questions and the test took him 30 minutes. What many questions does Jaxon finish every minute? Write your answer as a unit rate.

5) Write the unit rate represented below.  
Alexa jogs around her neighborhood 2 times every minute.

6) Identify the unit rate represented by the table.

Points scored	45	75	150
Games	3	5	10

<p>7) Identify the unit rate represented by the table.</p> <table border="1" data-bbox="115 155 518 294"> <tr> <td>Birds spotted</td> <td>24</td> <td>40</td> <td>56</td> </tr> <tr> <td>Hours</td> <td>3</td> <td>5</td> <td>7</td> </tr> </table>	Birds spotted	24	40	56	Hours	3	5	7	<p>8) Joey Chestnut is the World Hotdog Eating Champion. He can eat 74 hotdogs in 10 minutes. How many hotdogs does he eat in one minute? Write your answer as a unit rate.</p>
Birds spotted	24	40	56						
Hours	3	5	7						
<p>9) Write the unit rate represented below.</p> <p>Bob is a greeter at Walmart and says “Hello!” to 75 people every hour.</p>	<p>10) Christine is listening to music. After 56 minutes, she has listened to 14 songs. If each song was the same length, how many minutes was each song. Write your answer as a unit rate.</p>								

### Day 4

#### Focus:

SOL 6.12 The student will

- b. determine the unit rate of a proportional relationship and use it to find a missing value in a ratio table;

You will show you learned this by finding the unit rate for the table and using that to find the missing value(s).

**Notes:**

This is a pretty straight forward process. Just like when you had to find the unit rate from a table, you choose a part of the table where you have the numerator and denominator. Use that information to make a unit rate. Once you have the unit rate, use that to find the missing value(s).

**Example**

Identify and use the unit rate from the following ratio table to find the missing value.

Number of free throws attempted	10	15	30
Number of free throws made	8		24

$$\frac{10}{8} = \frac{10 \div 8}{8 \div 8} = \frac{1.25 \text{ attempted}}{1 \text{ made}}$$



$$15 \div 1.25 = 12$$

They should make 12 free throws if they attempt 15.

1) Identify the unit rate of the given ratio table and use it to find the missing value.

24	48	72
3		9

Unit Rate:

2) Identify the unit rate of the given ratio table and use it to find the missing value.

	18	33
5	6	11

Unit Rate:

3) Identify the unit rate of the given ratio table and use it to find the missing value.

28	34	56
14	17	

Unit Rate:

4) Identify the unit rate of the given ratio table and use it to find the missing value.

9		57
3	17	19

Unit Rate:

5) Identify the unit rate of the given ratio table and use it to find the missing value.

8	12	36
	9	27

Unit Rate:

6) Identify the unit rate of the given ratio table and use it to find the missing value.

14	22.4	
5	8	11

Unit Rate:

7) Identify the unit rate of the given ratio table and use it to find the missing value.

10	15	
	3	13

Unit Rate:

8) Identify the unit rate of the given ratio table and use it to find the missing value.

	63	91
5	9	

Unit Rate:

9) Identify the unit rate of the given ratio table and use it to find the missing value.

	55	88
6		8

Unit Rate:

10) Identify the unit rate of the given ratio table and use it to find the missing value.

4.5		15
3	8	

Unit Rate:

Day 5

Focus:

SOL 6.12 The student will

- a. represent a proportional relationship between two quantities, including those arising from practical situations;
- b. determine the unit rate of a proportional relationship and use it to find a missing value in a ratio table;

**Notes:**

**For these problems, you will show multiple skills. You will be given a ratio in the problem. Use it to make a unit rate and a ratio table with the unit rate as another column. The last thing you need to do is to use the unit rate to find the information they want in the problem.**

Ms. Fagala can write 4800 words in 60 minutes. Create a ratio table that shows this relationship and find the unit rate for the number of words she can write each minute and the number of words she can write in 45 minutes.

$$\frac{4800}{60} = \frac{4800 \div 60}{60 \div 60} = \frac{80 \text{ words}}{1 \text{ min}}$$

Number of Words	4800	80	3600
Number of minutes	60	1	45

$$80 \cdot 45 = 3600$$

1) Donna is making sweaters for her grandchildren. It took her 12 days to make 3 sweaters. Create a ratio table and find the unit rate to show how long it will take her to make 7 sweaters.


2) Jefferson is writing computer programs for the video game he is designing. It has taken him 84 hours to write 7 of the programs he needs. Create a ratio table and find the unit rate to show how long it will take him to write 5 more programs.


3) Fran love to draw pictures of her friends. After finishing her first four pictures, she noticed that 64 minutes had passed. Create a ratio table and find the unit rate to show how long it will take her to draw 4 pictures.


4) Leonard walks his neighbors' dogs to earn extra money. He already has 6 people he walks dogs for and it takes him 90 minutes. Create a ratio table and find the unit rate to show how much longer it will take him to walk 4 more dogs.


Day 1: Our focus today is to determine whether a proportional relationship exists between two quantities, when given a table of values.

**A proportional relationship exists if there is a constant of proportionality.**

**Notes:** Vocabulary word: **Constant of Proportionality**- each measure of the first quantity multiplied by “this constant” (the same number) gives the corresponding measure in the second quantity.

For example:

X	Y
2	6
4	12
7	21
10	30

Did you figure out what the constant of proportionality was in the table?

Here is a help:

$$2 \times \underline{\quad} = 6$$

$$4 \times \underline{\quad} = 12$$

$$7 \times \underline{\quad} = 21$$

$$10 \times \underline{\quad} = 30$$

The **constant of proportionality** is, you guessed it, three!

**Directions:** Determine if there is a proportional relationship between the two values. If there is, write the constant of proportionality.

**Example 1:**

**Answer:** Yes, the constant of proportionality is 5.

X	Y
3	15
6	30
9	45

**Example 2:**

**Answer:** No, there is none.

X	Y
2	8
4	20
6	24

1)

X	Y
2	4
3	6

2)

X	Y
3	9
5	20

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-3	9																
-4	12																
-6	18																

**Journal Writing:** In your own words- (Write your answers below or on a separate piece of paper.)

- 1) Explain what the constant of proportionality is.
- 2) Write how it helps you determine whether a proportional relationship exists between two quantities, when given a table of values.

**Day 2:** Our focus today is to determine whether a proportional relationship exists between two quantities, when given a verbal description, including those in practical situations.



Let's get practical...numbers don't just exist in isolation; they exist in our everyday lives.

Let's take a 6<sup>th</sup> grader riding his skateboard. If he turns it  $\frac{1}{2}$  a turn, he moves 180 degrees. But if he turns twice that amount, or  $2 \times 180$ , he turns it 360 degrees. And, that is being a great skateboard rider!

Now let's see if you can determine if these situations have a proportional relationship; just like the 6<sup>th</sup> grade skate boarder did!

**Directions:** Determine if in each of these situations a proportional relationship exists between two quantities. Explain your answer.

**Example:** Kate made one batch of chocolate chip cookies with 2 cups of flour. The following day, the cookies were all gone because Kate had a large family. So, she used 4 cups of flour to make 2 batches.

**Answer:** Yes, I drew the following table. The number I multiplied the X by to get my Y was 2.

X Batches of Cookies	Y Cups of Flour
1	2
2	4

**Directions:** Determine if in each of these situations a proportional relationship exists between two quantities. Explain your answer.

1) Jenisha ran 2 miles in 30 minutes. The next day, she ran 1 mile in 15 minutes.

**Answer:** Circle- yes or no

**Explain:**

2) Jackson shot 10 baskets in 5 minutes then 30 baskets in 10 minutes.

**Answer:** Circle- yes or no

**Explain:**

3) The ratio of dogs to cats today in the animal hospital is 3 to 7. The following day, the ratio is 6 cats to 14 dogs.

**Answer:** Circle- yes or no

**Explain:**

4) Ian loves to go shopping. The first week he was off, he spent \$12. The second week, he spent \$24. And the third week, he spent \$36.

**Answer:** Circle- yes or no

**Explain:**

5) The time Elijah spent on video games is 50 minutes the first day, 75 minutes the second day, and 100 minutes the third day.

**Answer:** Circle- yes or no

**Explain:**

6) In a bird sanctuary they have different cages. In one, they have 3 birds to 6 branches, the next has 5 birds to 10 branches and the last one has 8 birds to 16 branches.

**Answer:** Circle- yes or no

**Explain:**

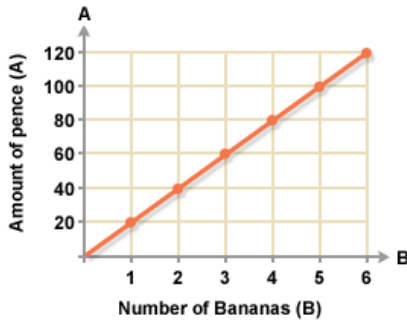
Journal Writing: Italy's Italian Pizza Place sells small pizzas for \$8.00 with a delivery charge of \$3. Sam wants it delivered. Below is the table for the cost of having it delivered:

X Number of pizzas	1	2	3	4
Y Total Cost with Delivery	11	19	27	35

Is this an example of a proportional relationship? Explain below.

**Day 3: Today we will determine whether a proportional relationship exists between two quantities given a graph of ordered pairs.**

**Notes: Let's look at a graph of ordered pairs.**



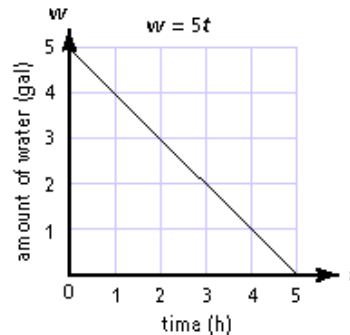
Notice the line through the graph.

Every set of ordered pairs that show a proportional relationship will always:

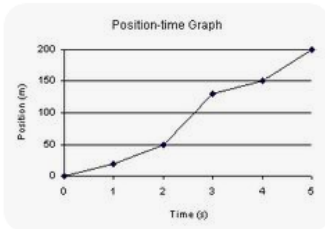
- 1) be a straight line, and
- 2) have the origin (0,0), as one of its ordered pairs.

**Here is a non-example:**

Notice that although it is a straight line, it does not go through the origin. Therefore, it does not represent a proportional relationship.



**Here is another non-example. This one does not use a straight line:**



If the line is not straight, then it does not represent a proportional relationship either. This example does not have a straight line, therefore, it is not an example of a proportional relationship.

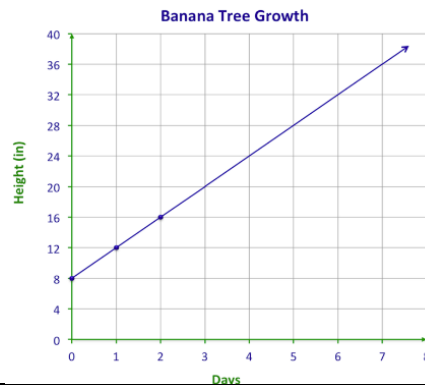
1) Is this an example of a proportional relationship?

Circle: yes or no Why?

2) Is this an example of a proportional relationship?

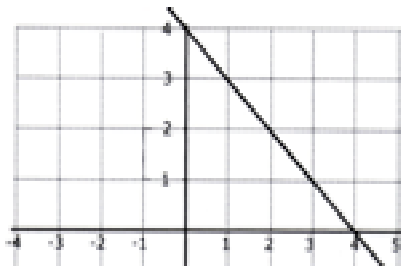
Circle: yes or no Why?





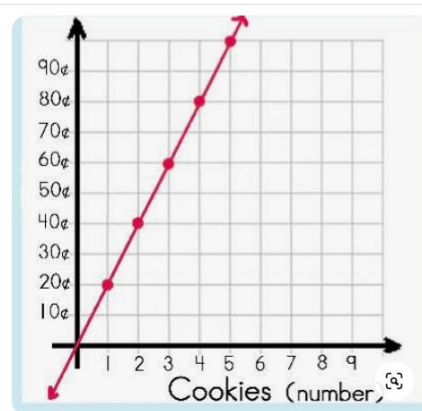
3) Is this an example of a proportional relationship?

Circle: **yes** or **no** Why?



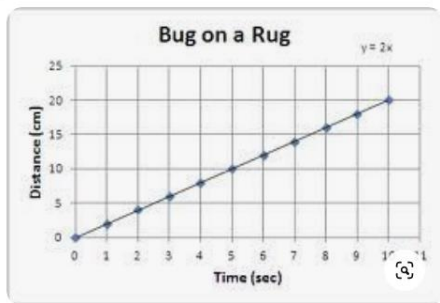
4) Is this an example of a proportional relationship?

Circle: **yes** or **no** Why?



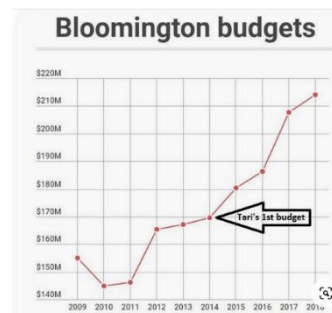
5) Is this an example of a proportional relationship?

Circle: **yes** or **no** Why?



6) Is this an example of a proportional relationship?

Circle: **yes** or **no** Why?



Journal Writing:

In your own words, explain how you know whether a graph is displaying a proportional relationship.

**Day 4: Today we will make connections between and among multiple representations of the same proportional relationship using verbal descriptions, ratio tables, and graphs.**

**Notes: Making connections between and among multiple representations of the same proportional relationship simply means to make sure the same information is presented in each representation.**

Verbal Description:	Ratio Table:	Graph:								
<p>At the Animal Clinic down the street, the ratio of dog to cat cages is 1:3.</p>	<table border="1"> <thead> <tr> <th>X Dog Cages</th> <th>Y Cat Cages</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3</td> </tr> <tr> <td>2</td> <td>6</td> </tr> <tr> <td>3</td> <td>9</td> </tr> </tbody> </table>	X Dog Cages	Y Cat Cages	1	3	2	6	3	9	<p style="text-align: center;"><b>Animal Cages</b></p>
X Dog Cages	Y Cat Cages									
1	3									
2	6									
3	9									

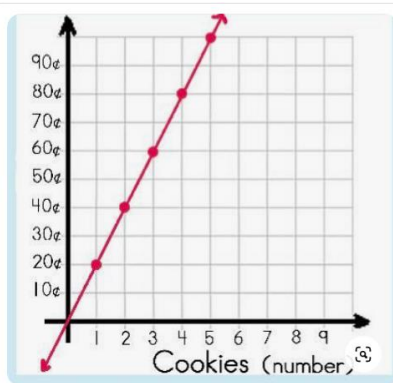
**Practice:**

1) Which proportional relationship below is represented in the following table?

Cars	4	8	16	32
Trucks	1	2	4	8

- A. In a parking lot, there are 4 trucks for every car.
- B. In a parking lot, there are 4 cars for every 8 trucks.
- C. In a parking lot, there is 1 truck for every 2 cars.
- D. In a parking lot, there is 1 truck for every 4 cars.

2) Circle the ratio table that shows a proportional relationship with the following graph?



X Cookies (number)	Y Cost (cents)
1	10
2	20
3	30

X Cookies (number)	Y Cost (cents)
1	20
2	40
3	60

**Journal Writings:**

- 1) Explain in your own words how you determined which table was the correct table above.
- 2) Write a verbal description of the relationship of cookies to cost of the cookie.
- 3) Describe some key factors you need to keep in mind when you make connections between multiple representations of the same proportional relationships using graphs, ratio tables, and verbal descriptions

2016 Mathematics Standards of Learning  
Algebra Readiness Formative Assessment

Day 5:

6.12d

1. Create a situation that represents a proportional relationship. Create a table of values and a graph to represent this relationship.
2. Suzanne is selling 4 boxes of cookies for \$10. A proportional relationship exists between the number of boxes of cookies,  $x$ , and the total cost,  $y$ . Create a graph with at least 4 points that represents the same proportional relationship.



3. The table represents the relationship between the dollars earned selling T-shirts for each day that Alejandro worked.

Shirts Sold	Dollars Earned
6	75
9	112.50
11	137.50

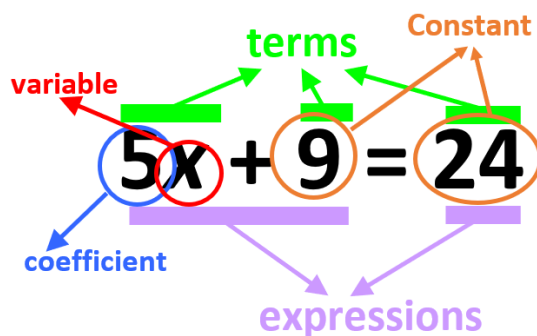
Determine and describe the unit rate for the price that he used for the cost of each shirt.

On the coordinate graph, plot points that would represent the relationship between the dollars earned and the sale of 1, 2, and 3 shirts.



Focus: Equation Vocabulary

Word	Definition
<b>Variable</b>	A symbol for an unknown value. Usually a letter, such as $a$ , $x$ , or $y$ , is the symbol used for a variable.
<b>Coefficient</b>	A number that is multiplied by a variable Example: $8y$ means 8 times $y$ ; 8 is the coefficient, and $y$ is the variable.
<b>Operator</b>	A symbol (+, ×, −, or ÷) representing a mathematical operation.
<b>Term</b>	Either a single number, a variable, or numbers and/or variables multiplied together. Examples: 4 45 $x$ $abc$ $5w$ $20mn$
<b>Expression</b>	A term or a combination of terms and operators. Examples: 2 $2x$ $2x+7$ $y$ $y-3$ $7w+3$ $8ab+9$ $5xyz$
<b>Equation</b>	A mathematical sentence stating that two expressions are equal.



1)  $2x + 3 = 7$   
Identify what is circled.

---

2)  $4y^2$   
Identify what is circled.

---

3)  $6c - 7d$   
Identify what is circled.

---

4)  $2x + 7 = 3$   
Identify what is circled.

---

5)  $6z + 2 = 8$   
Identify what is circled.

---

6)  $15c$   
Identify what is circled.

---

## I. Vocabulary – Match the word with its definition

- |                            |  |
|----------------------------|--|
| _____ coefficient          | A. a combination of variables, numbers, and at least one operation   |
| _____ term                 | B. A mathematical statement that two expressions have the same value.  |
| _____ algebraic expression | C. A mathematical statement containing $<$ , $\leq$ , $>$ , or $\geq$ .  |
| _____ constant             | D. a placeholder, usually a letter, used to represent an unspecified value in mathematical expressions or sentences. |
| _____ equation             | E. a number, variable, or a product of numbers and variables.  |
| _____ inequality           | F. The numerical factor of a term that contains a variable   |
| _____ variable             | G. a term that does not contain a variable   |

## II. Identification: Identify each of the following as an expression, an equation, or an inequality.

1)  $2x > 5$  \_\_\_\_\_

2)  $7xy$  \_\_\_\_\_

3)  $4x - 8z = 9$  \_\_\_\_\_

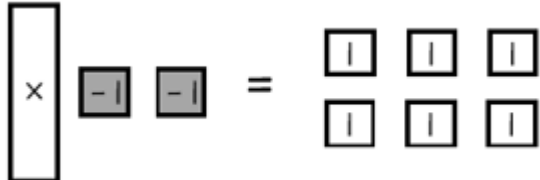
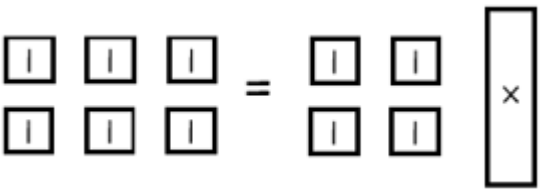
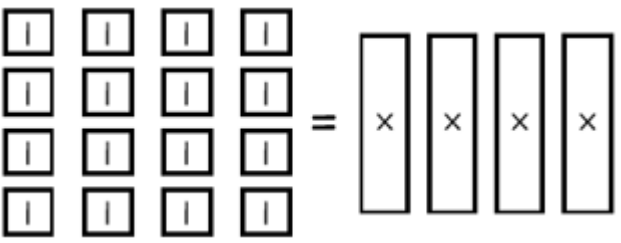
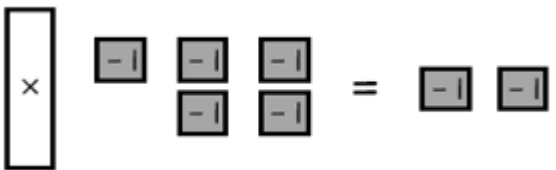

4)  $5 - 1 < 12$  \_\_\_\_\_

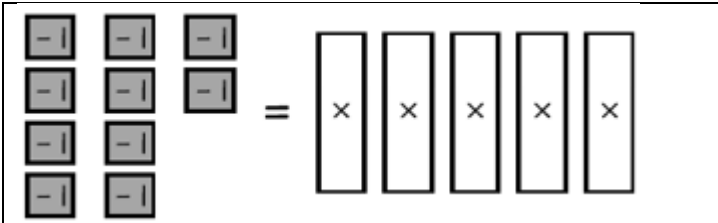
5)  $12x = 4s$  \_\_\_\_\_

6)  $6xy + 3bc$  \_\_\_\_\_

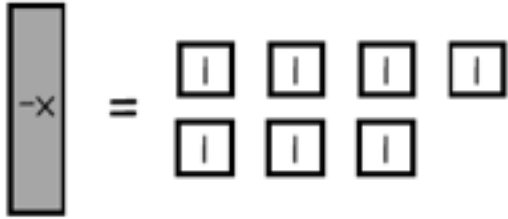
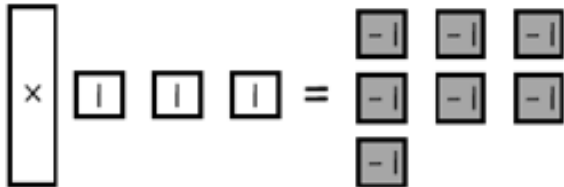
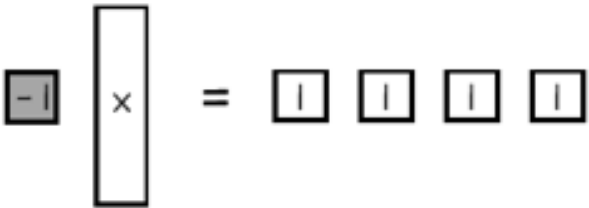
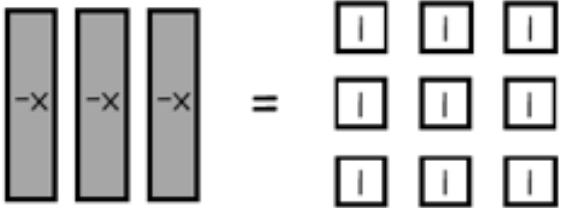
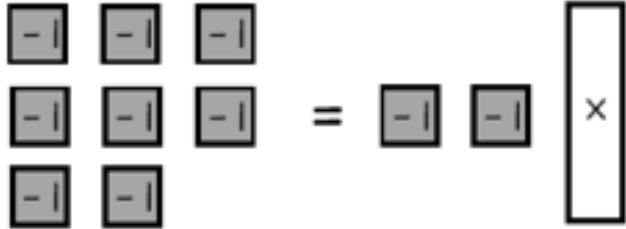
## Solving One-Step Equation with Algebra Tile Models

Solve the equation represented using algebra tiles. Match the equation and solution found on page 23 to the given model.

	Equation
	Equation
	Equation
	Equation
	Equation



Solution

 <p>A vertical bar containing the text "-x" is followed by an equals sign. To the right of the equals sign is a grid of eight vertical bars arranged in two rows and four columns.</p>	Equation
	Solution
 <p>A vertical bar containing the text "x" is followed by an equals sign. To the right of the equals sign is a grid of nine vertical bars arranged in three rows and three columns. Each vertical bar contains a minus sign (-).</p>	Equation
	Solution
 <p>A vertical bar containing the text "-" is followed by a vertical bar containing the text "x". This is followed by an equals sign. To the right of the equals sign is a horizontal row of four vertical bars.</p>	Equation
	Solution
 <p>Three vertical bars, each containing the text "-x", are followed by an equals sign. To the right of the equals sign is a grid of nine vertical bars arranged in three rows and three columns.</p>	Equation
	Solution
 <p>A grid of nine vertical bars arranged in three rows and three columns. Each vertical bar contains a minus sign (-). This is followed by an equals sign. To the right of the equals sign are two vertical bars, each containing a minus sign (-), followed by a vertical bar containing the text "x".</p>	Equation
	Solution




Equations	Solutions
$-10 = 5x$	$x = 3$
$16 = 4x$	$x = -10$
$x + 3 = -7$	$x = 4$
$x - 2 = 6$	$x = 8$
$-1 + x = 4$	$x = -3$

$6 = 4 + x$	$x = -2$
$-8 = -2 + x$	$x = -7$
$-3x = 9$	$x = 5$
$x - 5 = -2$	$x = 2$
$-x = 7$	$x = -6$

## Solve One Step Equations

We know inverse means opposite! Remember to use inverse operations to solve equation:

- Inverse of addition: \_\_\_\_\_
- Inverse of subtraction: \_\_\_\_\_
- Inverse of multiplication: \_\_\_\_\_
- Inverse of division: \_\_\_\_\_

 **ALWAYS do the same exact thing to both sides of the equation**


1) $x + 7 = 11$	2) $6 + x = 13$	3) $x + 8 = 14$
4) $x - 5 = 14$	5) $9 + x = 11$	6) $x - 12 = 20$
7) $3x = 21$	8) $8x = 56$	9) $9x = 81$
10) $\frac{x}{4} = 3$	11) $\frac{x}{5} = 7$	12) $\frac{x}{7} = 6$





# Solving Inequalities

## Hints & Notes

- To SOLVE AN INEQUALITY, just follow the same steps as solving an inequation.
- Solving an inequality is like saying “Which set of values makes this equation true?”
- Check your answer to see if it makes the inequality true
- The answer to any inequality is an infinite set of numbers. (The answer  $x < 4$  literally means ANY number less than 4, which can go on forever!)

★ ALWAYS remember to FLIP the inequality so the variable is on the left.

EXAMPLE:  $9 < x$    $x > 9$

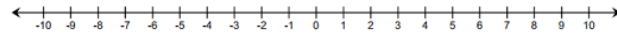
Symbol	Meaning	Number Line Symbol
$>$	Greater than	
$<$	Less than	
$\geq$	Greater than or equal to	
$\leq$	Less than or equal to	

## More Key Words [Meanings]

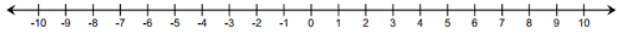
$<$	Less than Fewer than
$>$	Greater than More than
$\leq$	Less than or equal to At most No more than
$\geq$	Greater than or equal to No less than At least

Directions: Graph each inequality on a number line.

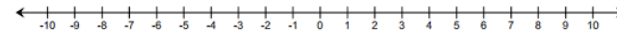
1.  $m < -7$



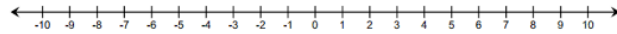
2.  $b \geq 4$



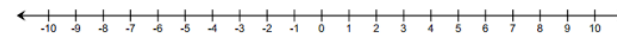
3.  $x > 8$



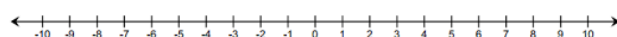
4.  $-2 \leq r$



5.  $1 > p$



6.  $5 \geq y$



Write an inequality to represent each situation then graph the inequality on a number line.

7. You must be at least 35 years old to run for President of the United States.

Answer: \_\_\_\_\_

8. I have less than \$15 in my purse.

Answer: \_\_\_\_\_

9. The gym holds no more than 300 people.

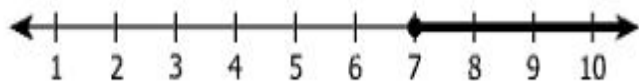
Answer: \_\_\_\_\_

10. My grandmother is at least 87 years old.

Answer: \_\_\_\_\_

PRACTICE

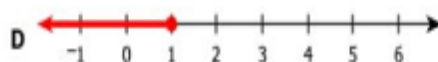
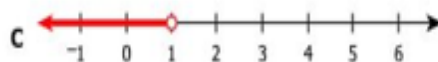
1. Which number sentence can be used to represent all the values of  $n$  shown on this graph?



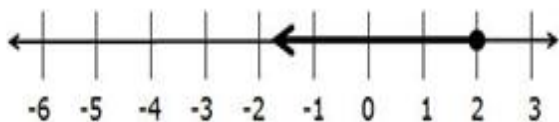
- A.  $n > 7$
- B.  $n \geq 7$
- C.  $n < 7$
- D.  $n \leq 7$

2. Which graph represents the solution set to this inequality?

$$1 \geq n$$

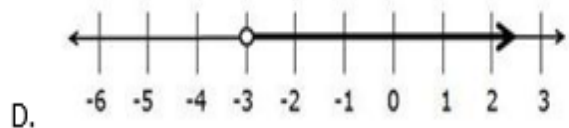
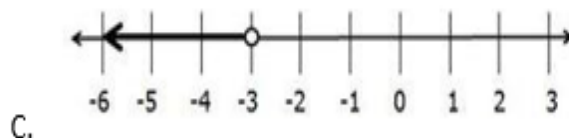
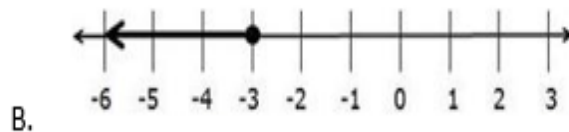
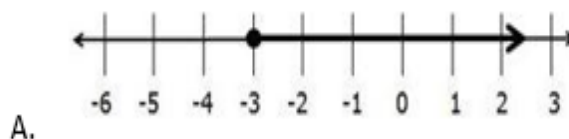


3. Which inequality represents the graph?



- A.  $2 < x$
- B.  $2 > x$
- C.  $2 \leq x$
- D.  $2 \geq x$

4. Which graph represents  $y < -3$ ?



5. Graph the inequality.

$$x \leq 13$$



6. Graph the inequality.

$$0 < x$$



PRACTICE

1. What is the solution to  $-12 \geq x - 4$ ?

- A  $-16 \leq x$
- B  $-8 \leq x$
- C  $-8 \geq x$
- D  $-16 \geq x$

2. For which inequality is  $-18$  a solution?

- A  $-10 \leq -9 + h$
- B  $-10 \leq 9 + h$
- C  $10 \leq -9 + h$
- D  $10 \leq 9 + h$

3. Solve and choose all answers that make the inequality true.

$$-3 \leq x - 4$$

0	-4	8	-2	1	-5	-100
50	-1	9	-10	-8	12	19

4. Look at the inequality.



Which inequality is represented by the graph shown?

- A  $-12 > d - 7$
- B  $-12 < d - 7$
- C  $12 > d + 7$
- D  $12 < d + 7$

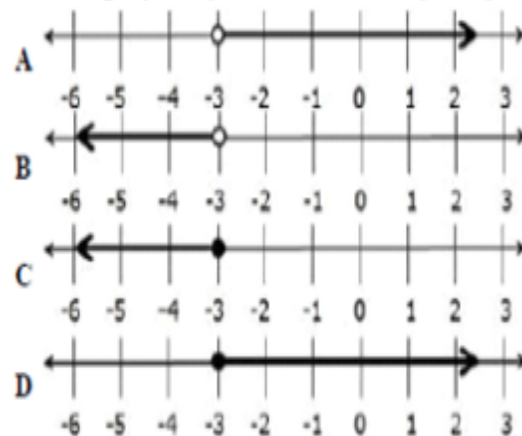
5. Which value of  $t$  makes the following true?

$$-16 + t < -32$$

- A  $-15$
- B  $15$
- C  $-17$
- D  $17$

6.

Which graph represents the inequality  $x - 10 \leq -13$ ?



7.

Which graph represents the inequality  $x + 6 > 3$ ?

