

Summer Homework

Incoming 7th
Graders

Math Packet #2

Name: _____

- 1** Select **all** the measurements that are equivalent to 48 centimeters.

(A) 0.48 m (D) 4,800 m
 (B) 4.8 mm (E) 48,000 km
 (C) 480 mm

- 2** The table shows the lengths of some wooden boards Matthew finds in his garage.

Board Lengths

Board	Length
A	$3\frac{1}{2}$ feet
B	41 inches
C	4 feet
D	1.25 yards

Which board is the shortest?

(A) A (C) C
 (B) B (D) D

- 3** A concession stand sold 180 food items at a school basketball game on Friday. It sold 57 slices of pizza, 78 hot dogs, and 45 hamburgers. What angle measure should be used for hot dogs in a circle graph of the data?

(A) 204° (C) 117°
 (B) 156° (D) 102°

- 4** Which measurement has the **LEAST** capacity?

(A) 2 gallons (C) 19 pints
 (B) 7 quarts (D) 30 cups

- 5** Trisha's puppy weighs 5 pounds. How many ounces does her puppy weigh?

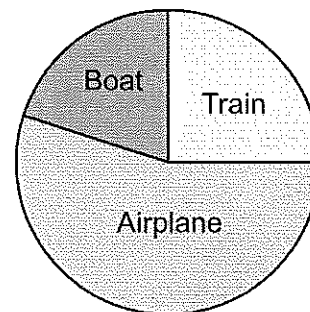
(A) 80 ounces (C) 50 ounces
 (B) 60 ounces (D) 40 ounces

- 6** Jabar lives 5 miles from the soccer fields. Sawyer lives 12.7 kilometers from the same soccer fields. Who lives farther from the soccer fields?

_____ lives _____ kilometers farther from the soccer fields.

- 7** A travel magazine surveyed 500 of its adult readers about their favorite ways to travel. The circle graph below shows that 125 people like to travel by train, 275 people like to travel by airplane, and 100 people like to travel by boat.

Ways to Travel



What is the angle measure of each section of the circle graph?

Train: _____

Airplane: _____

Boat: _____

- 8** Use $<$, $>$, or $=$ to compare the measurements.

1.25 mL _____ 0.0125 L

50 cm _____ 19 in.

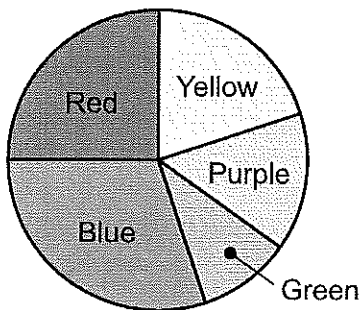
3,480 mg _____ 3.5 g

- 9** How many feet are in 7.5 miles?

- 10** Brianna's pet lizard measures 15 centimeters long. Her goldfish measures 127 millimeters long. How many centimeters longer is Brianna's lizard than her goldfish?

- 11** Trenton's scouting group made 100 T-shirts for a charity fundraiser. The circle graph below compares how many of each different colored T-shirt they made.

Colored T-shirts Made



If the angle measure of the section for purple is 54° , how many purple T-shirts did Trenton's scouting group make?

- 12** A balcony at an apartment can hold up to 1,816 kilograms. How many 160-pound people can the balcony hold?

- 13** Hallie made 12 quarts of homemade yogurt. She put the yogurt in $\frac{3}{4}$ -cup containers. How many containers did Hallie fill?

- 14** Emilio surveyed some students in his school about their favorite type of music and recorded the results in the table below.

Favorite Type of Music

Type of Music	Number of Students
Rap	10
Rock	15
Pop	18
Country	17

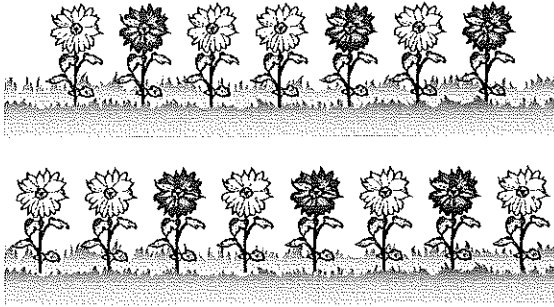
Part A

What part-to-whole ratio represents the number of students who liked country music best?

Part B

What angle measure should Emilio use for country music in a circle graph of the data?

- 1** What percentage of the flowers in the garden are white?



- (A) 20% (C) 60%
(B) 40% (D) 90%

- 2** Last month, a car dealership sold 80 cars. Of all the cars sold, 15% of them were red. How many cars that were sold were red?

- (A) 12 (C) 65
(B) 14 (D) 68

- 3** Of all the students that Mikey surveyed, 30% said they play baseball. If 21 students play baseball, how many students did Mikey survey?

- (A) 49 (C) 63
(B) 51 (D) 70

- 4** The area of Ms. Anderson's office floor measures 120 square feet. She puts down a carpet that covers 40% of the floor. What is the area of Ms. Anderson's floor not covered by the carpet?

- (A) 24 square feet
(B) 48 square feet
(C) 72 square feet
(D) 80 square feet

- 5** Write the ratio 1 to 8 as a fraction, decimal, and percent.

fraction: _____

decimal: _____

percent: _____

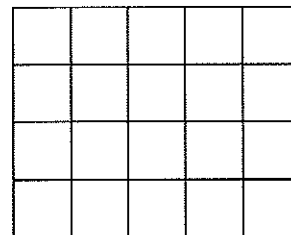
Solve.

6 67% of 180 = _____

_____ % of 400 = 104

55% of _____ = 11

- 7** Shade 30% of the whole grid.



8 There are 14 apples and 26 oranges in a picnic basket. What percentage of the fruit in the basket is oranges?

9 Jasmine has a collection of 80 seashells. Of all the seashells in her collection, 35% of them are white. How many of Jasmine's seashells are white?

10 An artist uses 18 colors on an art palette to paint a picture. This is 72% of all the colors on the palette. How many colors are on the artist's palette?

11 Kendrick's bill for lunch was \$24.50. He left the server an 18% tip. What is the total amount that Kendrick paid for lunch including the tip?

12 Shamus owes his parents \$162. He pays them 60% of the \$45 he earns as a soccer referee each week. How many weeks will it take Shamus to pay back all of the money he owes his parents?

13 Emma got 90% of the questions on her math test correct. If she answered 27 questions correctly, how many questions did Emma get wrong?

There were _____ questions on the test, so she got _____ questions wrong.

14 There are 125 people on a mountain trail.

Part A

If 55 people on the trail are children, what percentage of the people on the trail are children?

Part B

If 84% of all the people on the trail are on a hiking tour, how many people are on the tour?

- 1** What is the first step in evaluating the expression $6 - (4 \div 2 \times 5)^2$?
- (A) $6 - 4$ (C) 2×5
(B) $4 \div 2$ (D) 5^2
-
- 2** Silvio made 24 cupcakes. He also made m muffins. Which expression represents how many more muffins Silvio made than cupcakes?
- (A) $24 \times m$ (C) $m + 24$
(B) $24 \div m$ (D) $m - 24$
-
- 3** Select all the expressions that are equivalent to $4 \times 4 \times 4 \times 4 \times 4$.
- (A) 4^5
(B) 5^4
(C) $4^1 \times 4^5$
(D) $5^2 \times 5^2$
(E) $4^2 \times 4^3$
-
- 4** Which value for p makes the expressions $9p - 5$ and $(3 + p)5$ equivalent?
- (A) 7 (C) 5
(B) 6 (D) 4
-
- 5** Select all the expressions that are equivalent to $25 + 3(a - 5) + 7a$.
- (A) $10a + 20$ (D) $10a + 10$
(B) $8a + 23$ (E) $2(5a + 10)$
(C) $5(2a + 2)$
-
- 6** Evaluate each expression.
- $(60 - 6) \times \left(\frac{1}{3}\right)^3 + 27 \div 3 =$ _____
 $8^2 \div 4 \times (2 + 3) - 9 =$ _____
-
- 7** Evaluate each expression when $b = 1.5$.
- $3(b + 10) - 7 =$ _____
 $5b^2 + 28 =$ _____

- 8** Place an X in the table to match each description with the correct expression.

	$7(n + 4)$	$7 + 4n$	$7n + 4$
the product of n and 4 plus 7			
the sum of 4 and the product of n and 7			
the product of 7 and the sum of n and 4			

- 9** What are the different parts of the expression $2x + 8y - 15$?

Write each part of the expression in the correct place in the table.

Terms	Variables	Coefficients

- 10** Caroline earned 40 points for writing an essay on a test. She also earned 3 points for every question, q , she answered correctly. What expression can be used to find how many points Caroline earned on the test?

- 11** It took Mr. Rajesh a total of 9 hours to drive to his grandpa's house. He drove m miles before lunch and 240 miles after lunch. If he drove at a constant speed, what expression can be used to find how many miles Mr. Rajesh drove each hour?

- 12** A goat is placed in a circular pen with a radius of 15 feet. The formula for the area of a circle is $A = \pi r^2$, where r is the radius. If $\pi = 3.14$, on how many square feet of grass can the goat graze in the pen?

- 13** Place an X in the table to show whether each equation is true or false.

	True	False
$4y^3 = 4 \times y \times y \times y$		
$10x - 30 = 8 + 2(x - 3)$		
$3(6z - 4) = 18z - 12$		

- 14** A taxi service charges \$4.50 to pick someone up and then \$0.75 per mile during the ride.

Part A

Write an expression that can be used to find the cost of a taxi ride for any number of miles, m .

Part B

What is the cost of a taxi ride that is 5 miles long?

Name _____

- 1** Which value of k makes the equation $\frac{k}{2} = 10$ true?

(A) 20 (C) 8
(B) 12 (D) 5

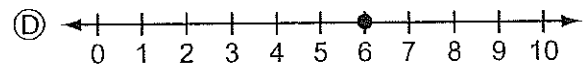
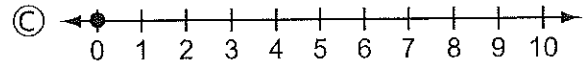
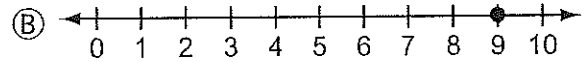
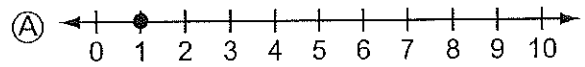
- 2** Sahil is $\frac{3}{4}$ foot taller than Charlie. Charlie is $5\frac{1}{8}$ feet tall. Which equation can be used to find Sahil's height, h ?

(A) $\frac{3}{4} + h = 5\frac{1}{8}$
(B) $\frac{3}{4} - h = 5\frac{1}{8}$
(C) $5\frac{1}{8} + \frac{3}{4} = h$
(D) $5\frac{1}{8} - \frac{3}{4} = h$

- 3** Select all the values of r that make the inequality $r > 4.6$ true.

(A) 4.60 (D) 4.9
(B) 5.05 (E) 4.08
(C) 3.7

- 4** Which number line models the solution to the equation $3x = 3$?



- 5** Ms. Wong ordered a box of 50 shirts to sell in her clothing store. She quickly sold 30 of the shirts. Which equations can be used to find how many shirts, s , Ms. Wong has left to sell?

Select all the correct equations.

(A) $50 - s = 30$ (D) $s + 30 = 50$
(B) $s - 30 = 50$ (E) $50 - 30 = s$
(C) $50 + 30 = s$

Solve.

6 $\frac{56}{b} = 7$

$b =$ _____

7 $z - \frac{2}{5} = \frac{1}{3}$

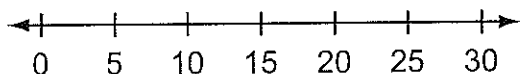
$z =$ _____

8 $1.9y = 11.78$

$y =$ _____

- 9** Angelina spent less than 15 hours practicing for her surfing competition. How many hours could she have spent surfing?

Graph the solution to the inequality on the number line.



- 10** Place an X in the table to show the solution that makes each equation true.

	$x = 3$	$x = 4$	$x = 9$
$3x = 12$			
$x + 5 = 14$			
$\frac{18}{x} = 6$			

- 11** Miguel baked 42 cookies for a charity bake sale. He made packages with 3 cookies in each. What equation can be used to find how many packages, p , of cookies Miguel made?
- _____

- 12** Julia bought a total of 4.5 pounds of bananas and cherries at the store. She bought 2.75 pounds of bananas.

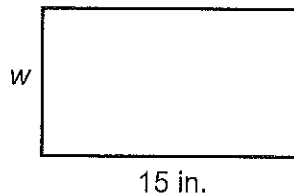
Part A

Write an equation that can be used to find how many pounds of cherries, c , Julia bought.

Part B

How many pounds of cherries did she buy?

- 13** The area of the rectangle below measures 135 square inches.



Part A

Write an equation that can be used to find the width, w , of the rectangle.

Part B

What is the perimeter of the rectangle in inches?

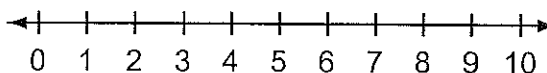
- 14** Connor wants to add more than 7 fish to his aquarium.

Part A

Write an inequality to represent how many fish, f , Connor wants to add to his aquarium.

Part B

Graph the solution to the inequality on the number line.



- 1** A piano teacher charges \$25 per lesson. What is the dependent variable in this relationship?

(A) the number of lessons taken
 (B) the price charged per lesson
 (C) the total cost of all the lessons taken
 (D) the total number of hours of all the lessons

- 2** The table shows the amount of snow in inches recorded each month last winter for Chicago and Boston.

Inches of Snow Recorded

Chicago, c	Boston, b
4	8
6	10
8	12

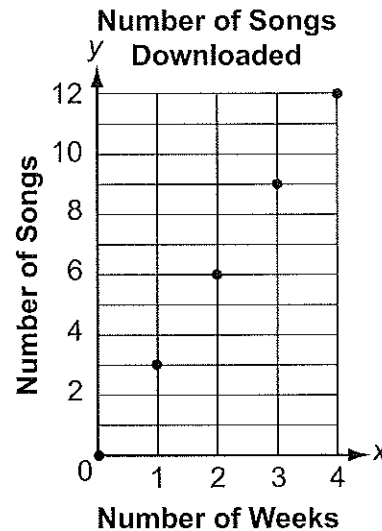
Which equation relates the amount of snow for Boston, b , to the amount of snow for Chicago, c ?

(A) $b = c + 4$ (C) $b = 4c$
 (B) $b = c + 2$ (D) $b = 2c$

- 3** Hailey is 2 years younger than her sister. If Hailey is h years old, which equation represents the age of her sister, s ?

(A) $s = 2h$ (C) $h = 2s$
 (B) $s = h + 2$ (D) $h = s + 2$

- 4** The graph shows how many songs Sabrina downloaded each week since she joined a music service.



Which equation relates the number of songs Sabrina downloaded, y , to the number of weeks, x ?

(A) $y = x + 2$ (C) $y = 2x$
 (B) $y = x + 3$ (D) $y = 3x$

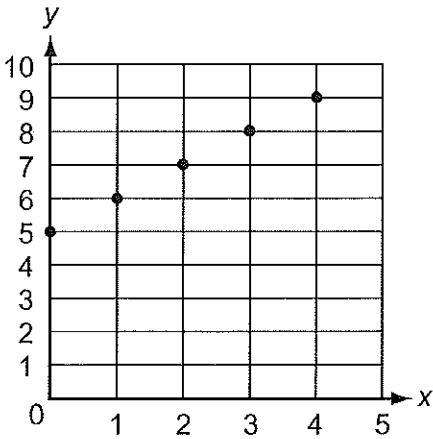
- 5** Mr. Garcia can estimate the distance in miles he will drive, d , given a certain number of hours, t , using the equation $d = 60t$.

Complete the table.

Mr. Garcia's Travel

Number of Hours, t	Miles Driven, d
2.5	
	180
5	
	390
10	600

- 6** Write an equation to represent the relationship shown in the graph.



- 7** Write an equation to represent the relationship shown in the table.

x	3	6	9	12
y	12.6	25.2	37.8	50.4

- 8** Frankie reads 32 pages of a book each night before he goes to sleep.

Part A

Write an equation that represents the number of pages, p , Frankie reads in n nights.

Part B

How many pages of the book does Frankie read after 8 nights?

- 9** A hose can be used to fill a swimming pool with water at a rate of 4 inches per hour.

Part A

Write an equation to relate the number of inches of water in the pool, y , to the time in hours, x , it takes to fill the pool.

Part B

Use the relationship between the amount of water in the pool and the length of time to complete the table.

Filling a Swimming Pool

Time (hours), x	Inches of Water, y
	2
1	4
	6
2	
2.5	

Part C

Graph the five points of the relationship from the table.

