

2017-2018
Math Summer Packet
Grade 6

Name: _____

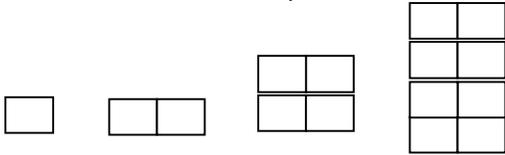
Elementary School: _____

6th Grade Math Teacher: _____

Part 1: Multiple Choice

Directions: Answer every question.

(1) If Lamar follows the pattern below, how many tiles will he need for his seventh figure?



- a. 12 tiles
- b. 16 tiles
- c. 32 tiles
- d. 64 tiles

(2) Kurt recorded the number of students who attended the Tulsa Zoo in the morning and afternoon hours. The results are shown in this table.

DAY	MORNING (m)	AFTERNOON (a)
Monday	24	37
Tuesday	30	43
Wednesday	35	48
Thursday	29	42
Friday	48	61

Which equation best describes the number of students who attended in the morning (m) compared to the number of students who attended in the afternoon (a)?

- a. $m + 12 = a$
- b. $a + 12 = m$
- c. $m + 13 = a$
- d. $a + 13 = m$

(4) Which expression shows how you can evaluate 7×63 using the distributive property?

- a. $(7 \times 6) + (7 \times 3)$
- b. $(7 \times 63) \times (7 \times 3)$
- c. $(7 \times 60) + (7 \times 30)$
- d. $(7 \times 60) + (7 \times 3)$

(5) Which equation demonstrates the commutative property of multiplication?

- a. $x(1/x) = 1$
- b. $(6f)3 = 3(6f)$
- c. $3(4m \times 5) = 12m \times 15$
- d. $12(2n) = (12n)2$

(6) A National Park in Montana has forty-three thousand, two-hundred twenty-nine and fifty-eight hundredths acres of forest. Which shows the amount of acres of forest in standard form?

- a. 43,229.58
- b. 43,229.058
- c. 43,229,058
- d. 43,229.508

(7) Which shows the following values from greatest to least?

$\frac{1}{4}$; 0.75; $\frac{1}{3}$; 0.5

- a. 0.75; $\frac{1}{4}$; 0.5; $\frac{1}{3}$
- b. $\frac{1}{4}$; $\frac{1}{3}$; 0.5; 0.75
- c. $\frac{1}{4}$; 0.5; $\frac{1}{3}$; 0.75
- d. 0.75; 0.5; $\frac{1}{3}$; $\frac{1}{4}$

(8) The average daily temperatures in July of some cities in Texas are shown in the table. Which of the following lists the cities from greatest temperature to least temperature?

City	Average Daily Temperature
Austin	84.52°F
Dallas	85.9°F
San Antonio	85°F
Fort Worth	85.31°F

- a. Dallas, Fort Worth, San Antonio, Austin
- b. Austin, Dallas, San Antonio, Fort Worth
- c. Austin, San Antonio, Fort Worth, Dallas
- d. Dallas, San Antonio, Fort Worth, Austin

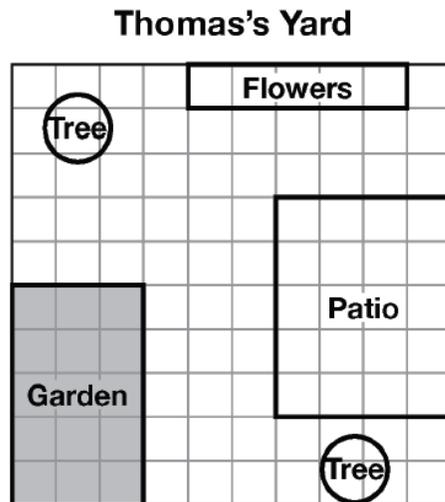
(9) The table shows the midday temperatures for each of five days during one week last winter.

Midday Temperatures	
Day	Temperature (degrees F)
Monday	7
Tuesday	-2
Wednesday	-1
Thursday	4
Friday	0

Which lists the weekdays in order from the day with the lowest midday temperature to the day with the highest midday temperature?

- a. Friday, Wednesday, Tuesday, Thursday, Monday
- b. Tuesday, Wednesday, Friday, Thursday, Monday
- c. Friday, Tuesday, Wednesday, Thursday, Monday
- d. Tuesday, Friday, Wednesday, Thursday, Monday

(10) Thomas made a drawing of his yard on a grid. The shaded squares represent the area for the garden.



Which decimal number is equivalent to the fractional part of Thomas' yard that will become the garden?

- a. 0.015
- b. 0.15
- c. 1.50
- d. 15.00

(11) Maggie had a bag of peanuts that weighed 2.84 pounds. She took some of the peanuts out of the bag. The bag then weighed 1.24 pounds. What was the weight of the peanuts that Maggie took out of the bag?

- a. 4.08 pounds
- b. 3.60 pounds
- c. 1.60 pounds
- d. 1.06 pounds

(12) In a relay race, Mia ran 1.43 kilometers. Then she passed the baton to Gerald, who ran an additional 2.7 kilometers. How many kilometers did they run in all?

- a. 4.13 Kilometers
- b. 3.36 Kilometers
- c. 3.50 Kilometers
- d. 1.70 kilometers

(13) Jenny and Miranda are working on a puzzle. Jenny has completed $\frac{5}{8}$ of the puzzle and Miranda has completed $\frac{1}{3}$ of it. What fraction represents how much more of the puzzle Jenny has completed than Miranda?

- a. $\frac{1}{6}$
- b. $\frac{7}{24}$
- c. $\frac{4}{5}$
- d. $\frac{24}{25}$

(14) Hanna jogged $1\frac{3}{4}$ miles (mi) on Saturday and 3 miles on Sunday. What is the difference between these two distances?

- a. $1\frac{1}{4}$ mi
- b. $2\frac{1}{4}$ mi
- c. $2\frac{3}{4}$ mi
- d. $4\frac{3}{4}$ mi

(15) Gina is 3 feet and 2 inches tall. Her father is 6 feet tall. Gina's father is how many inches taller than Gina?

- a. 34 inches
- b. 32 inches
- c. 28 inches
- d. 2.8 inches

(16) Kamilah took \$7.75 to her school book fair. She bought 3 posters and 1 book. The prices, including tax, for items sold at the book fair are shown.

Book Fair

Item	Price
stickers	\$0.25
pencil	\$0.35
poster	\$1.05
gel pen	\$1.60
book	\$3.00

What is the greatest number of pencils Kamiah can buy with the money she has left?

- a. 5 pencils
- b. 4 pencils
- c. 2 pencils
- d. 1 pencil

(17) There are 2,817 homes in the town of West Valley. Each home uses an average of 380 gallons of water each day. Use the expression below to find the total number of gallons of water the homes in West Valley use on average each day.

$$2,817 \times 380$$

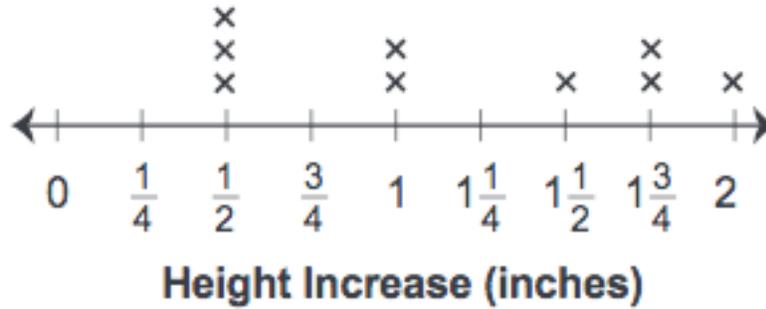
What is the total number of gallons of water the homes in West Valley use on average each day?

- a. 860,460 gallons
- b. 870,460 gallons
- c. 1,060,460 gallons
- d. 1,070,460 gallons

(18) Mr. Lucci put together 5 bags of pens. He put 19 black pens and 12 red pens in each bag. Which expression shows the total number of pens Mr. Lucci put into bags?

- a. $(5 \times 19) + 12$
- b. $5 \times (19 + 12)$
- c. $5 + (19 \times 12)$
- d. $(5 + 19) \times 12$

(19) David and his friends kept track of how much their height increased, in inches, over the past year. The line plot below shows this information



Based on the line plot, the most students grew how many inches this year?

- a. 0 inches
- b. 1 inch
- c. $\frac{1}{2}$ inch
- d. 2 inches

(20) A gas station sold 300.5849 gallons of gas in a day. How many gallons of gas did the gas station sell, rounded to the nearest hundredth?

- a. 300
- b. 300.58
- c. 300.585
- d. 300.59

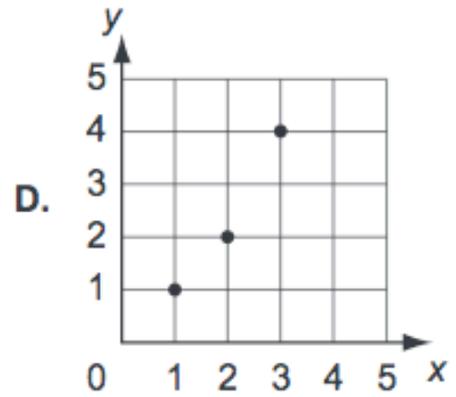
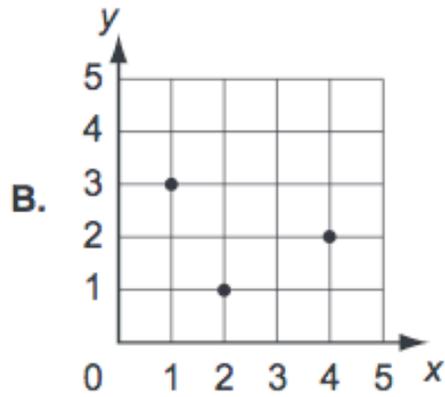
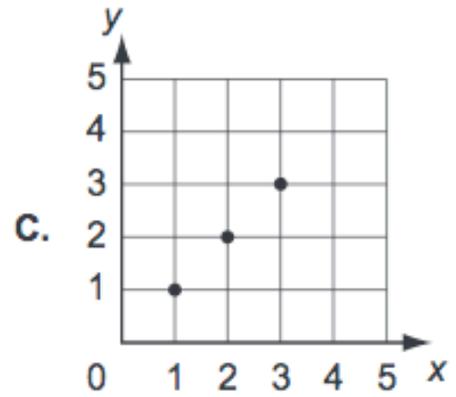
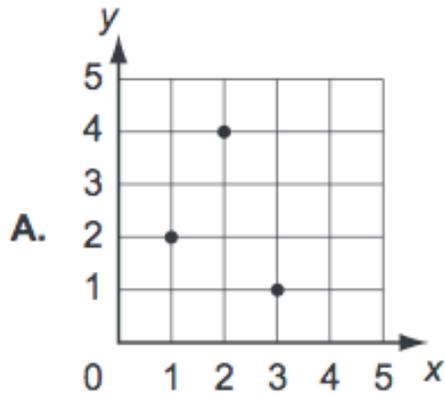
(21) A scientist measured the diameters of four human hairs. The diameters, in millimeters, were 0.091, 0.169, 0.17, and 0.023. Which inequality correctly compares the diameters of two of the human hairs?

- a. $0.17 > 0.023$
- b. $0.091 < 0.023$
- c. $0.169 > 0.17$
- d. $0.17 < 0.091$

(22) Greg had \$240.00 to spend on new clothes. He spent \$43.85 on two shirts, \$84.98 on a pair of shoes and \$56.24 on a pair of pants. About how much money did he spend?

- a. \$200.00
- b. \$185.00
- c. \$175.00
- d. \$170.00

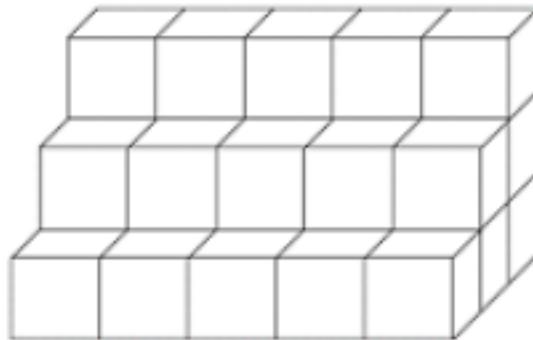
(23) Which coordinate grid shows the points (1, 2), (2, 4), and (3, 1) graphed correctly?



(24) If 3 cars hold 15 people, how many cars are needed for 165 people?

- a. 11 cars
- b. 33 cars
- c. 55 cars
- d. 180 cars

(25) Thirty cubes were used to construct this 3-step staircase. How many cubes would be used to construct a 10-step staircase of the same width?



- a. 100
- b. 180
- c. 240
- d. 275

Part 2: Short response

Direction: Answer every question. Show all work.

(1) Translate the following to a numerical expression:

“four times the sum of 9 and 6”

Answer: _____

(2) A water tank in the shape of a right rectangular prism is 11 feet deep. The top of the water tank has an area of 220 square feet. What is the volume, in cubic feet, of the water tank?

Show your work:

Answer: _____

(3) Members of the Garner High School Yearbook committee need to put 1,344 student photos on 24 pages in the yearbook. They want to put the same number of student photos on each page. How many student photos will they put on each page in the yearbook?

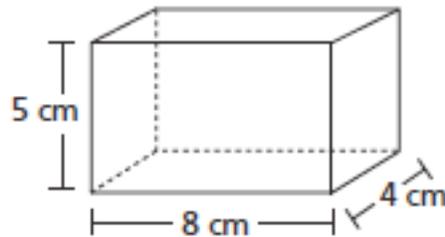
Show your work:

Answer: _____

(4) Fill in the blank to make the inequality true.

$$0.27 > \underline{\hspace{2cm}}$$

(5) Juliette made the jewelry box shown below. The jewelry box was shaped like a right rectangular prism.



What is the volume, in cubic centimeters, of the jewelry box?

Show your work:

Answer: _____

(6) The fifth-grade classes at Brookfield School used five identical buses to go on a field trip.

- ❖ There were a total of 40 seats on each bus.
- ❖ All of the seats on four buses were filled.
- ❖ The fifth bus had $\frac{4}{5}$ of the seats filled.
- ❖ $\frac{1}{8}$ of all the passengers on the buses were adults.

How many adults went on the field trip with the fifth-grade classes?

Show your work:

Answer: _____

(7) Josie has a 1,364-page book to read over summer vacation. She wants to read the same number of pages each day for 62 days. What is the total number of pages Josie will need to read each day?

Show your work:

Answer: _____

(8) Determine which of the following equation(s) are true:

Equation 1: $\frac{3}{10} + \frac{15}{100} = \frac{18}{100}$

Equation 2: $\frac{4}{10} + \frac{32}{100} = \frac{72}{100}$

Equation 3: $\frac{7}{10} + \frac{2}{100} = \frac{27}{100}$

Equation 4: $\frac{6}{10} + \frac{27}{100} = \frac{87}{100}$

Show your work:

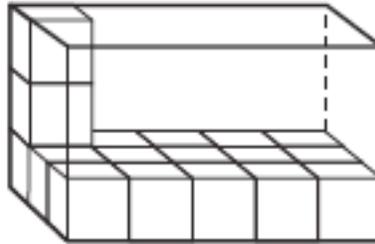
Answer: _____

(9) Determine the product of: $\frac{5}{8} \times \frac{3}{4}$

Show your work:

Answer: _____

(10) Rashad is filling a toy box with wooden blocks that are each a unit cube in size. He filled the bottom layer of a toy box with 15 wooden blocks. He then stacked two more wooden blocks on top of the bottom layer. The partially filled toy box is shown below.



Find the volume in cubic units of the toy box.

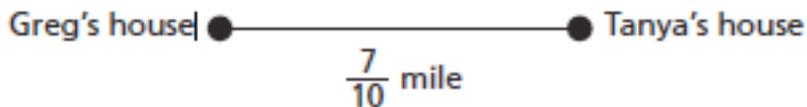
Show your work:

Answer: _____

(11) Translate the following written expression to a numerical expression:
"triple the sum of 24 and 9"

Answer: _____

(12) The distance from Greg's house to Tanya's house is $\frac{7}{10}$ of a mile.



Convert the distance to a decimal.

Show your work:

Answer: _____

(13) Movie tickets cost \$9.25 each and a large order of popcorn costs \$7.75. What is the total cost of 5 movie tickets and a large order of popcorn?

Show your work:

Answer: _____

(14) What is the value of the expression below?

$$\frac{1}{4} \div 8$$

Show your work:

Answer: _____

(15) Nellie has a watering can that contains 20 cups of water. She pours one quart of water on each plant in her yard. If Nellie uses all of the water in the watering can, how many plants does she water?

Show your work:

Answer: _____

(16) Christopher wants to buy a notebook for \$2.15, a pack of glue sticks for \$5.08, and a pack of pens for \$3.08. What is the total cost of the three items Christopher wants to buy?

Show your work:

Answer: _____

(17) Min wants to make 100 nametags with ribbons attached to them. Each nametag requires five centimeters of ribbon. She has 3.25 meters of ribbon. Exactly how many more centimeters of ribbon does Min still need to make 100 nametags?

Show your work:

Answer: _____

(18) The sign below shows the length of a trail in a park.



What is the length, in feet, of the trail?

Show your work:

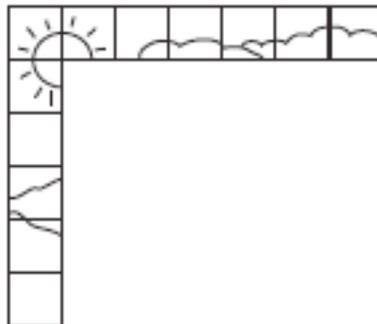
Answer: _____

(19) In a shipment of new books for a library, $\frac{5}{12}$ of the books were poetry and $\frac{2}{5}$ were biographies. The remainder of the books in the shipment were mysteries. What fraction of the books in the shipment were mysteries?

Show your work:

Answer: _____

(20) Tony began putting together a rectangular puzzle. He completed the top edge and left edge of the puzzle, as shown below. Each piece is a square that has a side length of $2\frac{1}{2}$ centimeters.



What is the total area, in square centimeters, of the completed puzzle?

Show your work:

Answer: _____

(21) The list below shows the numbers of miles John biked each day for 12 days.

$6\frac{3}{4}$, 7, $6\frac{1}{2}$, $6\frac{3}{4}$, $7\frac{1}{4}$, 7, $7\frac{1}{2}$, $6\frac{3}{4}$, $7\frac{1}{2}$, $6\frac{3}{4}$, $6\frac{1}{2}$, $7\frac{3}{4}$

Make a line plot of the data using the line below. Include a title and correct labels.

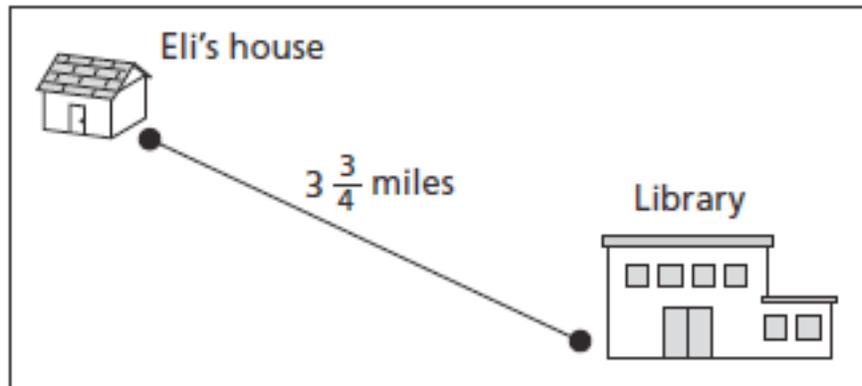


(22) Bella has 6.3 kilograms of berries. She packs 0.35 kilogram of berries into each container. She then sells each container for \$2.99. How much money will Bella earn if she sells all the containers?

Show your work:

Answer: _____

(23) Eli lives $3\frac{3}{4}$ miles from the library.



He decided to bike from his home to the library to return some books. Eli biked $1\frac{1}{10}$ miles when he remembered that he had left a book at home, so he biked back home to get it. After getting the book from home, he biked to the library. What was the total distance, in miles, Eli had biked when he finally reached the library?

Show your work:

Answer: _____

(24) There are 12 players on a new softball team. Before the team starts playing games, the team must pay a total registration fee of \$572. Along with the registration fee, the team will also need to spend a total of \$1,240 on equipment. To pay for the cost of the registration fee and the equipment, the players held a car wash and raised \$786. They then decided to sell candles for \$9.50 per candle to cover the remaining costs. If each player sells the same number of candles, how many candles must each player sell?

Show your work:

Answer: _____

In complete sentences, explain how you arrived at your answer: _____

(25) Hank and Debra each own two milking cows. One day, they milked their cows and compared the amount of milk the cows produced in that one day.

COW MILK PRODUCED

	Type of Cow	
	Jersey	Holstein
Hank's Cows (gallons of milk)	$4\frac{3}{4}$	$4\frac{1}{8}$
Debra's Cows (gallons of milk)	$5\frac{1}{2}$	$5\frac{2}{3}$

How many more gallons of milk did Debra's two cows produce on that day compared to Hank's two cows?

Show your work:

Answer: _____

Part 3:

Select a topic from the following list:

- (1) Adding and subtracting fractions
- (2) Converting measurements
- (3) Graphing points on a coordinate plane
- (4) Translating expressions
- (5) Comparing decimals using place value

Create either a presentation on the computer or a poster board that explains the topic that you selected and how you use it in math class.

Be sure to:

- ✓ Identify the topic selected
- ✓ Explain the topic selected in your own words
- ✓ List the steps necessary for your topic
- ✓ Describe a mistake you should be careful to avoid in this topic area
- ✓ Create an example problem from your topic
- ✓ Solve your example problem