2017-2018
Math Summer Packet
Grade 7

Name:_____

6th Grade Math Teacher:_____

7th Grade Math Teacher:_____

Part 1: Multiple Choice

Directions: Answer every question.

(1) Which integer makes this statement true?

$$8 + ? = 0$$

a. -16
b. -8
c. 0
d. 8

(2) The temperature at 6 A.M. was 9 degrees below zero. By noon, the temperature was 0 degrees Fahrenheit. What was the change in temperature from 6 A.M. to noon?

a. -18 degrees Fahrenheit
b. -9 degrees Fahrenheit
c. +9 degrees Fahrenheit
d. +18 degrees Fahrenheit

(3) Which inequality shows that -16 degrees Celsius is colder than -9 degrees Celsius

a. $-16 > -9$
b. $-16 < -9$
c. $-9 < -16$
d. $9 > 16$

(4) The expression $6^3 \times 4^2$ is equivalent to which of the following numerical expressions?

a. 18×8
b. $(6 \times 4)^5$
c. 24^6
d. 216×16

(5) The teachers at Applewood Hill School voted on extending the time for recess. 80% of the 30 teachers voted in favor. How many votes were against?

a. 6
b. 50
c. 18
d. 24

(6) 7.) Find the value of y.

$$2(5y - 1) = 18$$

a. $y = 3$
b. $y = 2$
c. $y = 5$
d. $y = 10$

(7) Jeremy has two 7-foot-long boards. He needs to cut pieces that are 15 inches long from the boards. What is the greatest number of 15 inch pieces he can cut from the two boards?

a. 5
b. 10
c. 11
d. 12

(8) 2. How much candy will each person get if $^{7}/_{8}$ lb. candy is shared equally among 4 people?

a. $^{28}/_{8}$ lbs. each

b. $^{1}/_{2}$ lbs. each

c. $^{7}/_{32}$ lbs. each

d. $^{7}/_{8}$ lbs. each

(9) There are two 6th grade classes one with 29 students and the other with 31 students. There are 26 male students between the two classes. What is the ratio of female students to total students?

a. 26:31

b. 26:34

c. 17:30

d. 29:31

(10) Roshan ran 2 $^{1}/_{2}$ miles around the track. Each lap is $^{1}/_{4}$ of a mile. How many laps did Roshan run?

a. 2 laps

b. 4 laps

c. 8 laps

d. 10 laps

(11) Brian walked his dog around the park 5 times. He walked for a total distance of 3 $^{1}/_{2}$ miles. What is the distance around the park 1 time?

a. $^{7}/_{10}$ mile

b. 3 miles

c. 0.6 miles

d. $^{1}/_{3}$ mile

(12) Mrs. Cruz split her class into groups, with four students in each group. Write the equation that shows how many groups are formed if there are 24 students in the class.

a. $24 - 4 = x$

b. $4 + x = 24$

c. $24 \div 4 = x$

d. $24 + 4 = x$

(13) What are the coefficients in the expression $-6y^2 + 11y + 2x + 3$

a. 11, 2, 3

b. -6, 11, 2

c. 11, 2

d. -6, 11, 2, 3

(14) Which expression represents the following situation?

Multiply the sum of a number and 4 by the difference of 9 and the number

a. $p + 4 \times 9 - p$

b. $p + 4(9 - p)$

c. $(p + 4) \times 9 - p$

d. $(p + 3) \times (9 - p)$

(15) What is the product?

$$\begin{array}{r} 17.5 \\ \times\ 0.61 \end{array}$$

a. 10.675
b. 10675
c. 1.0675
d. 106.75

(16) Chad poured a sidewalk that is 42 feet long. He is going to start at the beginning and make a cut every 20 inches. How many cuts will Chad make?
a. 20
b. 22
c. 25
d. 26

(17) Which expression is equal to a x a x a x b x b?
a. a^2b^3
b. a^3b^2
c. 3a x 2b
d. $3a^3$ x $2b^2$

(18) There are packs of skittles being sold in packs of 8, and M&Ms are being sold in packs of 6. What is the smallest number of packages of each that can be purchased to ensure that you have an equal number of M&Ms and skittles?
a. 2 packs of each
b. 8 packs of skittles and 6 packs of M&Ms
c. 3 packs of skittles and 4 packs of M&Ms
d. 4 packs of skittles and 3 packs of M&Ms

(19) Bus A leaves the station every 10 minutes and Bus B leaves the station every 8 minutes. Both busses left the station at 6:10 PM. What time will both busses leave the station again?
a. 40 minutes
b. 6:50 PM
c. 6:40 PM
d. 7:00 PM

(20) Apples are being sold for $0.55/lb. Ms. Colangelo purchased 3.5 lbs. of apples. How much money did she spend?
a. $1.92
b. $1.93
c. $1.90
d. $1.94

(21) Determine the value of |-7|
a. -7
b. 7
c. 0
d. 14

(22) If the original price of a shirt is $25.50, how much does the shirt cost after a 20% off discount?
a. $5.10
b. $20.40
c. $5.50
d. $25.30

(23) Look at this expression.

$$(4 + 2)^2 + 3 \times 2$$

What is the value of the expression?
a. 14
b. 18
c. 42
d. 78

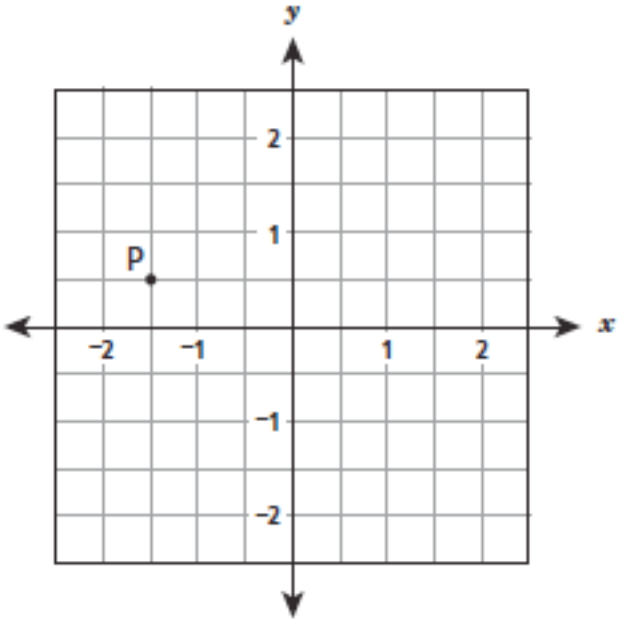
(24) A group of students went on a field trip. There were 3 boys for every 4 girls in the group. If there were 20 girls, how many students in all went on the field trip?
a. 15
b. 27
c. 32
d. 35

(25) Jordan designs lights for movie sets. One movie set has a light control with 0 representing normal light. The lighting can be increased by increasing the number on the light control or decreased by decreasing the number on the light control. Which number on the light control would make the movie set the **darkest**?
a. 9
b. 4
c. -5
d. -7

Part 2: Short response

Direction: Answer every question. Show all work.

(1) What is the x-coordinate of point P on the coordinate grid?



Answer:_____

(2) Arnold's entire workout consisted of 10 minutes of warm-up exercises, 25 minutes of lifting weights, and 15 minutes on the treadmill. What was the ratio of the number of minutes he lifted weights to the total number of minutes of his entire workout?

Show your work:

Answer:_____

(3) Wyatt hiked 6 miles in 2 hours. At this same rate, what is the total number of miles Wyatt could hike in 9 hours?

Show your work:

Answer:_____

(4) A punch recipe requires 2 cups of cranberry juice to make 3 gallons of punch. Using the same recipe, what is the amount of cranberry juice needed for 1 gallon of punch?

Show your work:

Answer:_____

(5) Omar has $2\ ^{3}/_{4}$ cups of dough to make dumplings. If he uses $^{3}/_{16}$ cup of dough for each dumpling, how many whole dumplings can Omar make?

Show your work:

Answer:_____

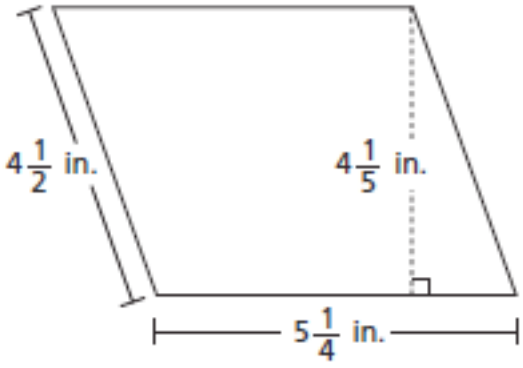
(6) What is the solution of the equation below?

$$x + 8.63 = 11.001$$

Show your work:

Answer:_____

(7) Erica drew the parallelogram below:



Determine the area of the parallelogram.

Show your work:

Answer:_____

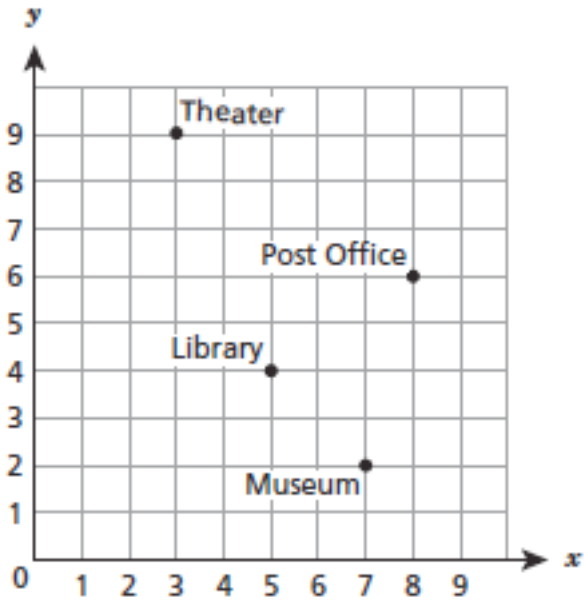
(8) Determine the value of the expression below:

$$\frac{5}{6} \div \frac{3}{7}$$

Show your work:

Answer:_____

(9) The points plotted on the coordinate grid below show different locations in a city. The grid lines represent the city's streets.



The city plans to build a parking lot at the location represented by the coordinates (8,4) Which building is the shortest driving distance from the parking lot?

Show your work:

Answer:_____

(10) Solve the equation below.

$0.3r = 2.1$

Show your work:

Answer:_____

(11) A group of students organized a car wash to raise money for a local charity. The students charged $5.00 for each car they washed. In 3 hours, they washed 12 cars. At that rate, how much money could they earn from washing cars for eight hours?

Show your work:

Answer:_____

(12) Kelly saves $5 every week. Write an expression to represent the amount of money, in dollars, Kelly will save in *w* weeks.

Answer:_____

(13) What is the greatest common factor of 56 and 92?

Show your work:

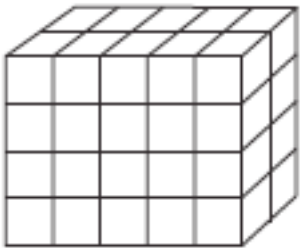
Answer:_____

(14) A museum has an aquarium in the shape of a right rectangular prism that is 22.9 meters long, 7.5 meters wide, and 4.6 meters high. What is the volume, rounded to the nearest cubic meter, of the aquarium?

Show your work:

Answer:_____

(15) The right rectangular prism shown below is made of equal-sized cubes. The side length of each cube is $2\ ^{1}/_{2}$ inches.



What is the volume, in cubic inches, of the right rectangular prism?

Show your work:

Answer:_____

(16) The water level in an ocean bay changes at an average rate of 3 meters per hour. At this rate, how many hours would it take for the water level to change 12 meters?

Show your work:

Answer:_____

(17) A company paid $48 for 2 cases of printer paper. Each case contained 12 packages of paper. Next month the company's office manager needs to order 180 packages of the same paper. If the price per package does not change, what would be the total cost of next month's order?

Show your work:

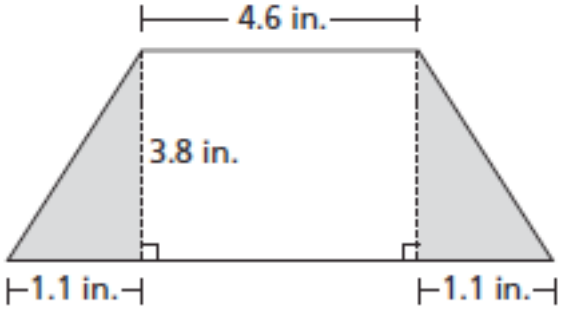
Answer:_____

(18) At a concert, 20% of the audience members were teenagers. If the number of teenagers at the concert was 360, what was the total number of audience members?

Show your work:

Answer:_____

(19) The trapezoid shown below has an area of 21.66 square inches.



[not drawn to scale]

What is the total area of the shaded sections of the trapezoid?

Show your work:

Answer:_____

(20) What is the value of the expression below when c = 5 and d = 4?

$$6c^2 - 5d + 8$$

Show your work:

Answer:_____

(21) Machines S and T were both cleaned this week.

- Machine S is cleaned every 12 weeks.
- Machine T is cleaned every 8 weeks.

What is the fewest number of weeks that will pass before both machines are cleaned again in the same week?

Show your work:

Answer:_____

(22) The area of a rectangular city park is $^{25}/_{54}$ square miles. The length of the park is $^{5}/_{9}$ mile. What is the width, in miles, of the park?

Show your work:

Answer:_____

(23) In Ms. Perron's class, 75% of the students are boys. There are 18 boys in the class. What is the total number of students in Ms. Perron's class?

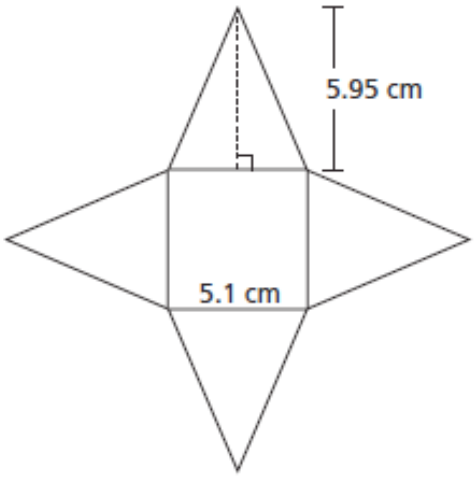
Show your work:

Answer:_____

(24) Using the distributive property create an expression equivalent to 5(d + 1).

Answer:_____

(25) A net of a square pyramid is shown below.



What is the surface area, in square centimeters, of the pyramid?

Show your work:

Answer:_____

Part 3:

Select a topic from the following list:
(1) Dividing Fractions
(2) Solving one and two-step algebraic equations
(3) Finding the volume of a right rectangular prism
(4) Finding the GCF and the LCM
(5) Finding unit rates

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