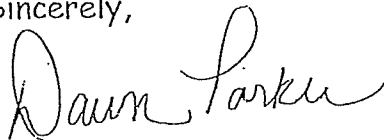


For students entering Grade 8.

Dear Parents and Students,

Attached, please find this year's summer practice packet for math. These packets will be due to the homeroom or mathematics teacher on the first day of school and will count as a grade for the first trimester. Please see rubric below for grading details. As you will see on the rubric, in order to receive the full 30 points, all problems must be complete, neat and organized, with detailed work shown for each problem (where applicable). Thank you in advance for your focused effort on this year's summer math packet. It is our hope that completing the math packet will reinforce the skills taught this year. We hope you enjoy a fantastic summer and look forward to working with you again this fall.

Sincerely,



Dawn Parker

Summer Math Packet Rubric

Name: _____

A. All problems in the packet are complete.

Points: 10 8 6 4 2

B. Detailed work process is shown for each problem (use extra paper as needed).

Points: 10 8 6 4 2

C. Work is neat and organized.

Points: 5 4 3 2 1

D. Summer Practice Packet is handed in on time (the first day of school). One point will be deducted for each day the assignment is late.

Points: 5 4 3 2 1

Total Points Possible: 30

Points Earned: _____

7th Grade Summer Packet - Students entering grade 8

1. The table shows the costs of different size jars of peanut butter. Which of the jars has the lowest unit rate?

Comparison Shopping	
Size	Cost
12-oz	\$3.00
18-oz	\$4.40
25-oz	\$6.75
32-oz	\$8.25

- A. 12-oz jar
 B. 18-oz jar
 C. 25-oz jar
 D. 32-oz jar
2. The enrollment at a community college this year is 115% of last year's enrollment. If there were 1,240 students enrolled at the college last year, how many students are there this year?

- F. 1,054 students
 G. 1,302 students
 H. 1,378 students
 I. 1,426 students

3. Vicky jogged $2\frac{3}{4}$ miles in $\frac{1}{2}$ hour. What was her average rate of speed in miles per hour?

- A. $1\frac{3}{8}$ miles per hour
 B. $3\frac{1}{4}$ miles per hour
 C. $5\frac{1}{2}$ miles per hour
 D. $6\frac{3}{8}$ miles per hour

4. In a recent survey, 55% of pet owners have more than one pet. If there were 620 pet owners surveyed, which proportion can be used to find the number who own more than one pet?

F. $\frac{100}{55} = \frac{n}{620}$

G. $\frac{55}{100} = \frac{n}{620}$

H. $\frac{55}{100} = \frac{620}{n}$

I. $\frac{55}{620} = \frac{n}{100}$

5. **SHORT ANSWER** A pair of jeans that normally sells for \$35 is on sale for 20% off. Find the sale price of the jeans. Then find the total cost of the jeans if the sales tax rate is 6%.

6. How much simple interest is earned on an investment of \$1,250 if the money is invested for 5 years at an annual interest rate of 4.5%?

- A. \$1,531.25
 B. \$1,306.25
 C. \$281.25
 D. \$56.25

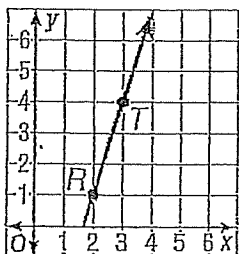
NAME _____

DATE _____

7. **SHORT ANSWER** Determine whether the relationship between the two quantities in the table is proportional. Explain your reasoning.

Bicycle Rental	
Hours	Cost (\$)
0	12.50
1	17.50
2	22.50
3	27.50

8. What is the slope of the line that passes through points R and T ?



F. $-\frac{3}{1}$

G. $-\frac{1}{3}$

H. $\frac{1}{3}$

I. $\frac{3}{1}$

9. The weight of an object on the moon varies directly as the weight of the object on Earth. A 90-pound object on Earth weighs 15 pounds on the moon. If an object weighs 156 pounds on Earth, how much does it weigh on the moon?

A. 23 pounds

B. 26 pounds

C. 28 pounds

D. 936 pounds

10. A muffin recipe calls for 4 cups of sugar and yields 36 muffins. If Amelia only wants to make 24 muffins, how much sugar will she need?

F. 6 cups

G. $3\frac{3}{4}$ cups

H. $2\frac{2}{3}$ cups

I. $2\frac{1}{2}$ cups

11. A sprinter runs 100 meters in 11.5 seconds. What is the runner's average running rate in meters per second? Round to the nearest tenth.

A. 8.7 meters per second

B. 9.5 meters per second

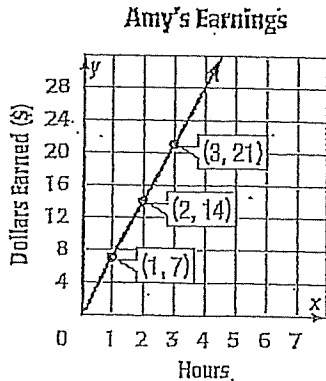
C. 10.1 meters per second

D. 11.5 meters per second

NAME _____

DATE _____

12. Amy earns \$7 per hour for babysitting. Which of the following statements is true about the relationship between the number of hours Amy works and her earnings?



- F. The relationship is proportional because the graph of the line passes through the origin and has a constant rate of change.
- G. The relationship is proportional because there is not a constant rate of change between the points.
- H. The relationship is nonproportional because the points do not form a straight line.
- I. The relationship is nonproportional because the line through the points does not intersect the origin.
13. A video game that normally sells for \$80 is on sale for \$68. What is the percent of discount for the sale price?

- A. 18%
- B. 17%
- C. 15%
- D. 12%

14. What is the constant rate of change of the ordered pairs shown in the table?

x	y
2	3
4	7
6	11
8	15

- F. 1
- G. 2
- H. 3
- I. 4

15. **SHORT ANSWER** Estimate 58% of 121 by using 10%. Show your work.

16. Last year there were 43 science projects submitted by students at a science fair. This year there are 52 science projects. To the nearest tenth, what is the percent of change in the number of science projects submitted?

- A. 17.3% decrease
- B. 17.3% increase
- C. 20.9% decrease
- D. 20.9% increase

17. Simplify the complex fraction.

$$\frac{\frac{4}{3}}{\frac{2}{5}}$$

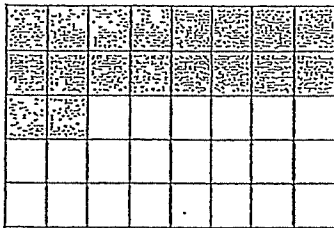
F. $\frac{3}{10}$

G. $\frac{8}{15}$

H. $\frac{15}{8}$

I. $\frac{10}{3}$

18. What percent of the figure below is shaded?



A. 45%

B. 40%

C. 20%

D. 18%

19. Mr. Thompson plans to invest \$7,500 in a savings account that earns 2.75% simple annual interest. If he makes no other deposits or withdrawals, how much money will Mr. Thompson's account be worth after 10 years?

F. \$2,062.50

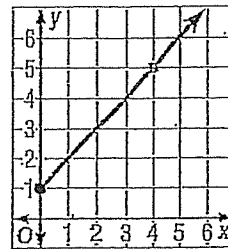
G. \$7,706.25

H. \$9,562.50

I. \$10,128.25

20. **SHORT ANSWER** Use the percent equation to solve the following problem. Show your work. 98 is 35% of what number?

21. What is the slope of the line shown on the coordinate plane?



A. 1

B. $\frac{3}{5}$

C. $-\frac{3}{5}$

D. -1

22. Which of the following equations represents a direct variation?

F. $y = x - 1$

G. $y = \frac{x}{3}$

H. $y = x + 5$

I. $y = 2x - 3$

NAME _____ DATE _____

23. The bookstore normally sells mechanical pencils for \$6.50. This week the pencils are discounted by 25%. To the nearest cent, what is the amount of discount?

A. \$1.30

B. \$1.63

C. \$2.11

D. \$4.88

24. Christy drove 135 miles in 2.5 hours. What was her average speed in miles per hour?

F. 50 miles per hour

G. 52 miles per hour

H. 54 miles per hour

I. 55 miles per hour

25. **SHORT ANSWER** An electrician charges a \$50 fee to make a service call plus \$25 per hour he works. Complete the table. Then determine whether the relationship between the two variables is proportional. Explain your reasoning.

Hours	Cost (\$)
1	75
2	
3	
4	

Integer Addition, Subtraction, Multiplication and Division

Find each sum.

1) $(-3) + (-5)$

2) $(-6) + (-1)$

3) $1 + (-1)$

4) $(-5) + (-3)$

Find each difference.

5) $(-6) - 3$

6) $7 - (-1)$

7) $(-3) - 8$

8) $3 - 8$

Evaluate each expression.

9) $7 - (-5)$

10) $(-2) - (-2)$

11) $(-4) - (-5)$

12) $(-7) - 7$

13) $(-1) - (-1)$

14) $3 - (-5)$

15) $6 + (-1)$

16) $(-8) + 4$

17) $(-5) - (-1)$

18) $(-8) - (-6)$

Find each product.

19) $(-5)(10)$

20) $(-3)(7)$

21) $(7)(-7)$

22) $(5)(-9)$

23) $(7)(-1)$

24) $(-9)(5)$

25) $(-6)(-6)$

26) $(-3)(-10)$

7) $(8)(-2)$

28) $(4)(-4)$

9) $(-10)(-3)$

30) $(7)(-8)$

1) $(-8)(-2)$

32) $(-4)(-6)$

3) $(-9)(3)$

34) $(2)(-2)$

15) $(6)(-3)(-5)$

36) $(9)(-7)(9)$

17) $(-9)(2)(-6)$

38) $(-6)(-1)(8)$

19) $(-2)(-5)(-7)(8)$

40) $(5)(8)(-2)(-9)$

11) $(4)(-7)(8)(-5)$

42) $(7)(-2)(7)(5)$

Find each quotient.

13) $\frac{-70}{-10}$

44) $\frac{-21}{-7}$

15) $\frac{36}{-4}$

46) $\frac{4}{-1}$

17) $\frac{18}{3}$

48) $\frac{12}{6}$

9) $-72 \div -9$

50) $-18 \div 9$

1) $8 \div -2$

52) $-20 \div -5$

3) $-14 \div 7$

54) $-72 \div 8$

Multi-Step Equations

Solve each equation.

1) $6a + 5a = -11$

2) $-6n - 2n = 16$

3) $4x + 6 + 3 = 17$

4) $0 = -5n - 2n$

5) $6r - 1 + 6r = 11$

6) $r + 11 + 8r = 29$

7) $-10 = -14v + 14v$

8) $-10p + 9p = 12$

9) $42 = 8m + 13m$

10) $a - 2 + 3 = -2$

11) $18 = 3(3x - 6)$

12) $30 = -5(6n + 6)$

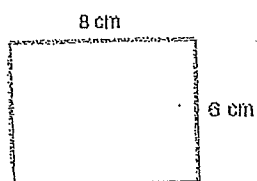
1. Find the sum $(-4) + 6$.

- A. 10
 - B. -10
 - C. 2
 - D. -2
-

2. Find $(-8) \cdot 4$.

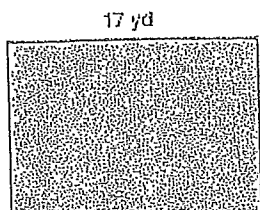
- A. 32
 - B. -2
 - C. -32
 - D. 2
-

3. Find the perimeter of the rectangle.



- A. 28 cm
 - B. 48 cm
 - C. 22 cm
 - D. 14 cm
-

4. Find the area of the rectangle.



B. 14 yd^2

C. 1054 yd^2

D. 238 yd^2

5. Find the sum of $\frac{2}{3}$ and $\frac{5}{8}$.

A. $\frac{7}{24}$

B. $\frac{7}{11}$

C. $1 \frac{1}{4}$

D. $1 \frac{7}{24}$

6. Find the quotient $\frac{7}{25} \div \frac{3}{5}$.

A. $\frac{21}{125}$

B. $2 \frac{1}{7}$

C. $\frac{7}{15}$

D. $5 \frac{20}{21}$

7. Determine the range of the set of data.

11 21 30 29 7 26

18 12 3 10 12 15

A. 12

B. 27

C. 16.17

D. 13.5

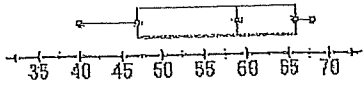
8. Find the upper quartile of the set of data.

11 21 30 29 7 26

18 12 3 10 12 15

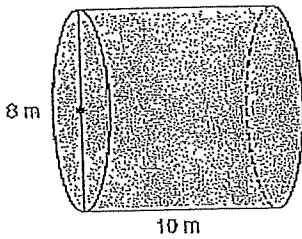
- B. 10.5
 C. 23.5
 D. 13.5
-

9. What does the dot at 47 represent?



- A. upper quartile
 B. lower quartile
 C. median
 D. lower extreme
-

10. Determine the surface area of the cylinder below.

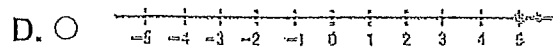
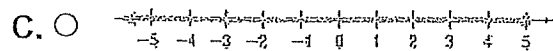
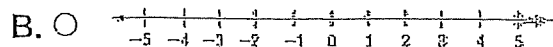
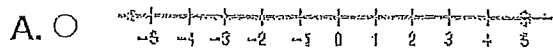


- A. 452.4 m²
 B. 301.6 m²
 C. 251.3 m²
 D. 351.9 m²
-

11. What is the volume of a cube whose edges are $6\frac{1}{2}$ inches long?

- A. 338 in³
 B. $274\frac{5}{8}$ in³
 C. $253\frac{1}{2}$ in³

12. Graph $x \geq 5$.



13. Find $\frac{7}{10} - \frac{9}{10}$. Write the difference in simplest form.

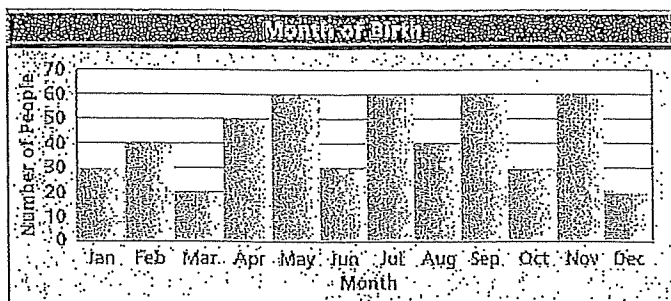
A. $\frac{1}{5}$

B. $1\frac{3}{5}$

C. $-1\frac{3}{5}$

D. $-\frac{1}{5}$

14. According to the histogram, which interval has the most births?



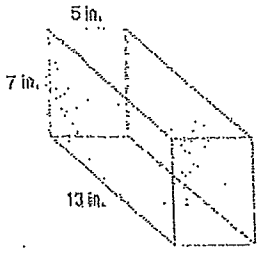
A. October-December

B. July-September

C. January-March

D. April-June

15. Find the surface area of the rectangular prism.



- A. 910 in²
 - B. 455 in²
 - C. 191 in²
 - D. 382 in²
-

16. While visiting an orchard, the Williams family picked 98 apples, 49 oranges, and 52 lemons, and 103 limes. Approximately how much fruit did the family pick in total that day?

- A. 250
 - B. 200
 - C. 150
 - D. 300
-

17. Janna rented a moving truck for 3 days. It cost her \$95.25 per day, but she had a coupon for \$10 off per day. What was the final cost of using the truck?

- A. \$255.75
 - B. \$300.25
 - C. \$275.75
 - D. \$225.50
-

18. Estimate $\sqrt{67}$ to the nearest whole number.

C. 8

D. 6

19. Name the reciprocal of $3\frac{5}{7}$.

A. $\frac{9}{23}$

B. $\frac{5}{17}$

C. $\frac{21}{12}$

D. $\frac{7}{26}$

20. Rudy went to see a professional baseball game. While keeping stats on the game, he counted 44 at-bats for the home team. Of these, 11 batters made a hit. What percent of batters got a hit for the home team?

A. 20%

B. 35%

C. 25%

D. 33%

21. 80 is what percent of 400?

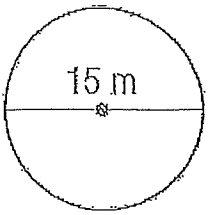
A. 20%

B. 30%

C. 10%

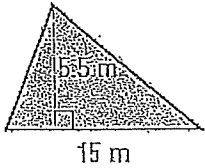
D. 33%

22. Find the circumference of the circle to the nearest tenth.



- A. 38.5 m
 - B. 47.1 m
 - C. 34.7 m
 - D. 23.6 m
-

23. Find the area of the triangle.



- A. 82.5 cm^2
 - B. 42.5 cm^2
 - C. 41.25 cm^2
 - D. 72.6 cm^2
-

24. Anisa wants her pet angelfish to have at least 72 in^3 of swimming room. If the base of the aquarium is 1 foot by 3 feet, how deep does she need to fill the tank?

- A. 3 feet
 - B. 2 feet
 - C. 1 foot
 - D. 1.5 feet
-

of chocolate chips, strawberries, or no topping. Use the Fundamental Counting Principle to determine the number of different breakfasts possible.

- A. 86
 - B. 108
 - C. 124
 - D. 72
-

26. A die is rolled. Find the odds of rolling a number divisible by 2.

- A. 1:6
- B. 1:2
- C. 1:1
- D. 1:3