

# Penny Sikes 5<sup>th</sup> and 6<sup>th</sup> Grade Mathematics Tournament

Sponsored by Morris Bank

## 2024 5<sup>th</sup> Grade Individual Test

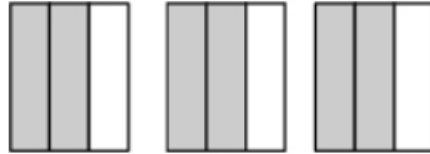
- 1) Make sure your name and your grade are correct on the answer sheet.
- 2) NO CALCULATORS!
- 3) DO NOT OPEN THIS TEST BOOKLET UNTIL INSTRUCTED TO DO SO BY THE TEST MONITOR.
- 4) If you must leave to go to the restroom, raise your hand and a monitor will escort you to the nearest restroom. Remember you have a time limit.
- 5) Read each problem carefully and mark each answer on your answer sheet.
- 6) Each correct answer on the test will be counted as one point on your individual score.
- 7) If individuals have the same written test score, ties will be broken by determining which student gave correct answers to the most difficult item(s) on the test.
- 8) When the individual testing is over, please make sure you turn in your pencil and scantron. You may take your test and scratch work with you.

1. Perform the following operation.

$$17.09 - 5.82 =$$

- (a) 11.27      (b) 11.87      (c) 12.27      (d) 12.87

2. Look at the model:



Which expression does the model represent?

- (a)  $\frac{2}{3} \times 3$       (c)  $\frac{1}{3} \times 2$   
(b)  $\frac{1}{2} \times 3$       (d)  $\frac{1}{3} \times 9$

3. Expand the following expression:  $35.2 \times 10^4$

- (a) 0.00352      (b) 0.0352      (c) 35,200      (d) 352,000

4. Student council is selling t-shirts for Homecoming as a fundraiser. They make \$17 per shirt and sold 231 shirts. How much money did they raise?

- (a) 1,848      (b) 2,848      (c) 3,837      (d) 3,927

5. Cisco drove the Star Labs van down the street going 25.67 miles per hour. Round Cisco's speed to the nearest tenth.

(a) 30 miles per hour

(c) 25.6 miles per hour

(b) 26 miles per hour

(d) 25.7 miles per hour

6. Which expression represents the following phrase?

The product of  $\frac{2}{5}$  and  $\frac{1}{5}$  divided by the sum of  $\frac{2}{7}$  and  $\frac{3}{7}$ .

(a)  $\frac{2}{5} \div \frac{5}{7}$

(b)  $\left(\frac{2}{5} \times \frac{1}{5}\right) \div \left(\frac{2}{7} + \frac{3}{7}\right)$

(c)  $\left(\frac{2}{5} \div \frac{1}{5}\right) \times \left(\frac{2}{7} + \frac{3}{7}\right)$

(d)  $\frac{2}{25} \div \frac{6}{14}$

7. Patty wrote a word in secret code. In the code, the number 26 stood for the letter "A", the number 25 stood for the letter "B", and so on. Using this code, what word is represented by the five number code 19, 26, 11, 11 and 2?

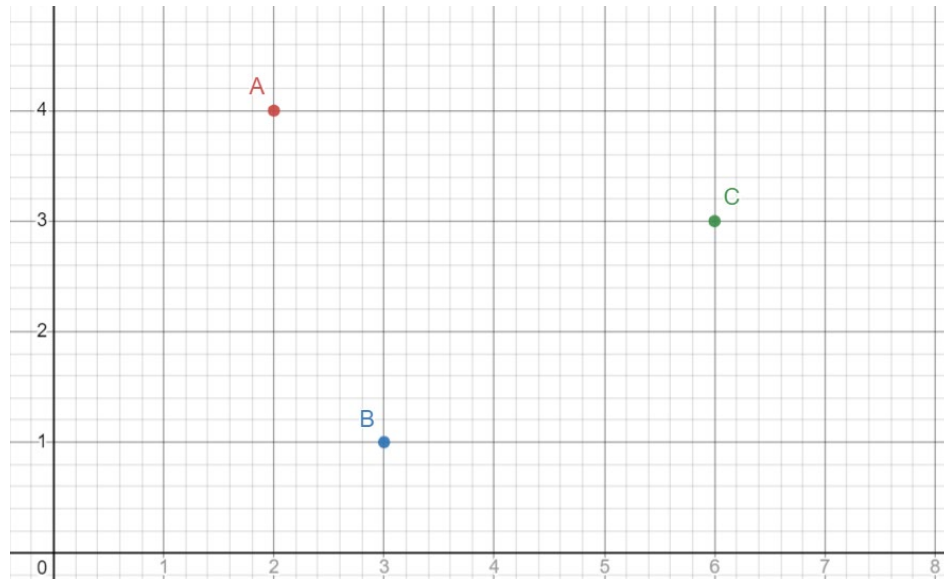
(a) RATTY

(b) HAPPY

(c) HOPPY

(d) DANNY

8.



Which set of ordered pairs show the coordinates for points A, B and C?

- (a) (4,2) (3,1) (3,6)                      (c) (2,4) (1,3) (6,3)  
(b) (2,4) (3,1) (3,6)                      (d) (2,4) (3,1) (6,3)

9. Complete the conversion table below.

<b>Feet</b>	1	2	3	4
<b>Inches</b>	12	24	36	?

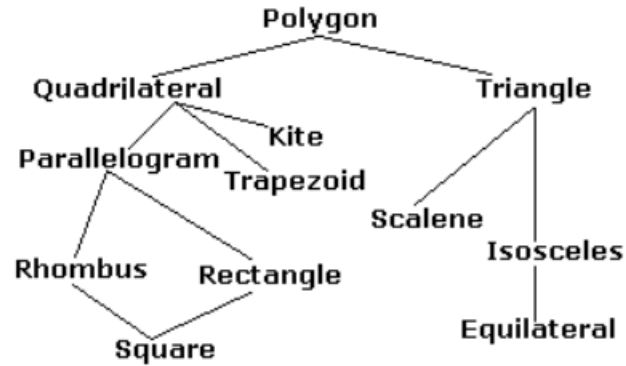
What number should be in the box with the question mark?

- (a) 5                      (b) 37                      (c) 48                      (d) 60

10. If 5 apples = 10 snapples, then 8 apples = \_\_\_\_\_ snapples?

- (a) 3                      (b) 4                      (c) 13                      (d) 16

11. According to the hierarchy below, a Rectangle can be classified as all of the following EXCEPT



- (a) Polygon      (b) Trapezoid      (c) Quadrilateral      (d) Parallelogram
12. Simplify the expression:  $15 \div \frac{1}{4}$
- (a) 60      (b)  $\frac{1}{60}$       (c)  $\frac{15}{4}$       (d)  $\frac{4}{15}$
13. Compare the two numbers below.

5.284
9.431

How much smaller is the 4 in the first number than the 4 in the second number?

- (a) It is  $\frac{1}{1000}$  of the size
- (b) It is  $\frac{1}{100}$  of the size
- (c) It is  $\frac{1}{10}$  of the size
- (d) It is  $\frac{1}{4}$  of the size

14. Chester is using unit cubes to measure the volume of the rectangular prism.



Which of the following statements is **false** about the unit cubes Chester is using to fill the rectangular prism?

- (a) The volume of this rectangular prism could be 18 cubic inches.
  - (b) There are 3 layers of cubes that can fit in this rectangular prism.
  - (c) The volume of this rectangular prism could be 9 square centimeters
  - (d) It will take 18 cubes to fill this rectangular prism.
- 15.

Area Codes			
MIAMI, FL	786	PHOENIX, AZ	520
BOULDER, CO	303	DOVER, PA	717
COLUMBUS, GA	706	DENVER, CO	720
ORLANDO, FL	407	MILLVILLE, NJ	856
CAMDEN, SC	803	DURHAM, NC	919
NEW YORK, NY	718	MARION, SC	843
DAYTONA, FL	386	ERIE, PA	814

The area codes of 14 cities are listed in the table above. If you find the sum of the digits in each cities' area code, which two cities have a sum of 13?

- (a) Dover and Marion
- (b) Columbus and Erie
- (c) Columbus and Orlando
- (d) Marion and Erie

16. Pattern A and Pattern B are determined by the following rules:

- Pattern A – First Term: 50 Rule: Subtract 7
- Pattern B – First Term: 8 Rule: Multiply by 3

Which of the these ordered pairs is created from these patterns? Use (A, B).

- (a) (50, 8) (57, 16) (64, 24) (71, 32)
- (b) (50, 8) (43, 16) (36, 24) (29, 32)
- (c) (50, 8) (43, 24) (36, 72) (29, 216)
- (d) (50, 8) (57, 24) (64, 72) (71, 216)

17. Barry looked up the population of the following cities, as shown in the chart below.

City	Population in Millions
Coast City	0.654
Central City	0.72
Star City	0.756
Metropolis	0.75
Keystone City	0.834

Which of the following number sentences correctly compares the populations of Star City and Metropolis?

- (a)  $0.654 < 0.756$  (c)  $0.756 < 0.75$
- (b)  $0.756 > 0.75$  (d)  $0.75 < 0.834$

18. A bookshelf has 5 shelves. Each shelf can hold 8 books. If there are already 20 books on the bookshelf, how many more books can be added before it's full?

- (a) 7 (b) 13 (c) 20 (d) 40



22. Students in grades 3, 4 and 5 at Central City Elementary school sang at the school concert. Each grade sang for exactly  $\frac{1}{3}$  of the concert and sang exactly 6 songs each. All of the songs were the same length. What fraction of the concert was 1 song?

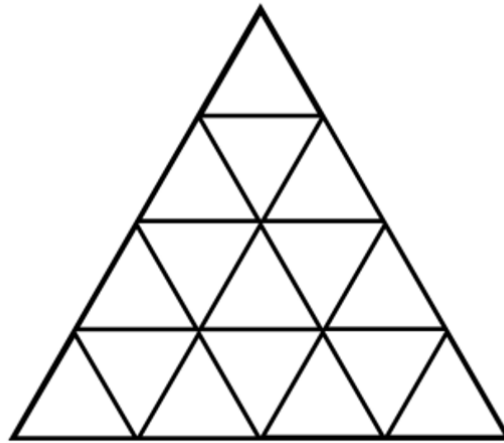
(a)  $\frac{1}{27}$

(b)  $\frac{1}{18}$

(c)  $\frac{1}{9}$

(d)  $\frac{1}{6}$

23.



How many total triangles are in the image above?

(a) Seventeen

(c) Twenty-seven

(b) Sixteen

(d) Twenty-one

24. Five friends – Alex, Brooke, Chris, Dana and Evan – are sitting in a row. Use the clues below to determine who is in the second seat.

- Alex is to the left of Brooke
- Chris is to the right of Evan
- Dana is to the left of Alex
- Brooke is in the middle
- Evan is to the right of Dana.

(a) Alex

(b) Chris

(c) Dana

(d) Evan

25. The Allen family traveled for exactly 3 and a half hours. How many seconds did they travel?

(a) 105

(b) 210

(c) 6,300

(d) 12,600

26. Which of the following list of fractions is in order from least to greatest?

(a)  $\frac{2}{5}$ ,  $\frac{3}{4}$ ,  $\frac{5}{8}$

(b)  $\frac{1}{4}$ ,  $\frac{2}{3}$ ,  $\frac{3}{10}$

(c)  $\frac{3}{8}$ ,  $\frac{9}{10}$ ,  $\frac{7}{12}$

(d)  $\frac{3}{5}$ ,  $\frac{7}{10}$ ,  $\frac{5}{6}$

27. A mystery number has the features below:

- The number has 5 digits
- The digit 3 is in the tens and tenths places.
- The digit 7 is in the hundreds and hundredths place.
- The digit 4 also appears in the number.

Based on the clues above, what is the mystery number?

(a) 734.37

(b) 437.37

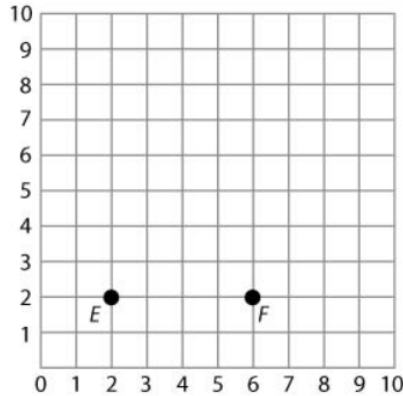
(c) 73.437

(d) 73.374

28. The product of 6 whole numbers is 36. What is the least possible value of their sum?

- (a) 8                      (b) 12                      (c) 14                      (d) 16

29. Allegra started to draw right triangle  $EFG$  on the coordinate plane below.



Allegra wants to complete the triangle so the length of  $EF$  equals the length of  $EG$ . Which coordinate pair represents the location where Allegra should place point  $G$ ?

- (a) (6,5)                      (b) (2,5)                      (c) (2,6)                      (d) (6,2)

30. Using the diagram below, which of the following inequality statements is true?

$$\text{☀} \text{ ☀} = \text{🍏} \text{ ☀} \text{ 🍏} \qquad \text{☀} = 40$$

$$\text{☀} \text{ 🍏} = \text{💡} \text{ 💡}$$

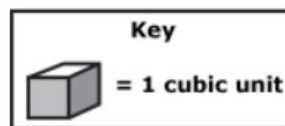
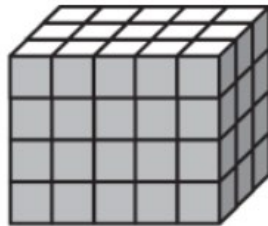
- (a)  $\text{💡} < \text{☀}$                       (c)  $\text{☀} < \text{🍏}$   
 (b)  $\text{🍏} > \text{💡}$                       (d)  $\text{💡} < \text{🍏}$

31. Travis wants to pour his trail mix into 4 four-pound containers. How many pounds will be left in the bag after filling the 4 four-pound containers?



- (a)  $\frac{4}{25}$  pound      (b)  $6\frac{1}{4}$  pounds      (c) 6 pounds      (d) 9 pounds

32. Patty and Barry needed to calculate the volume of the following rectangular prism.



Patty calculated the volume of the rectangular prism as 36 cubic units.  
Barry calculated the volume of the rectangular prism as 47 cubic units.

Who calculated the volume correctly?

- (a) Barry's volume of 36 cubic units is correct.  
(b) Both Barry and Patty are correct  
(c) Patty's volume of 47 cubic units is correct.  
(d) Neither is correct, the volume is actually 60 cubic units.

33. Consider the equation below.

$$12 \times \frac{3}{8} = k$$

Which of the following statements about the equation is false?

- (a) Changing  $\frac{3}{8}$  to  $\frac{21}{56}$  will not change the value of  $k$ .
- (b) Changing  $\frac{3}{8}$  to  $\frac{5}{8}$  will increase the value of  $k$ .
- (c) Changing the 12 to 15 will decrease the value of  $k$ .
- (d) The value of  $k$  is less than 12.

34. Ms. Snow sells bags of jellybeans in her store. The size, weight and cost for each bag are shown in the chart below.

Bag Size	Weight of Bag (pounds)	Cost per Pound
Small	2.5	\$1.19
Medium	4.5	\$1.09
Large	6.5	\$0.99
Jumbo	8.5	\$0.89

Based on the information in the chart, which of the following statements is FALSE?

- (a) An order of 2 bags of equal size with a total weight of 13 pounds will cost less than \$13.00.
- (b) An order of 2 bags of equal size with a total weight of 17 pounds will cost less than \$17.00.
- (c) An order of 4 bags of equal size with a total weight of 10 pounds will cost less than \$10.00.
- (d) An order of 4 bags of equal size with a total weight of 34 pounds will cost less than \$31.00.

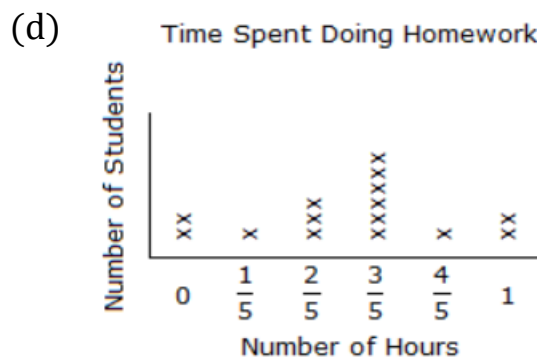
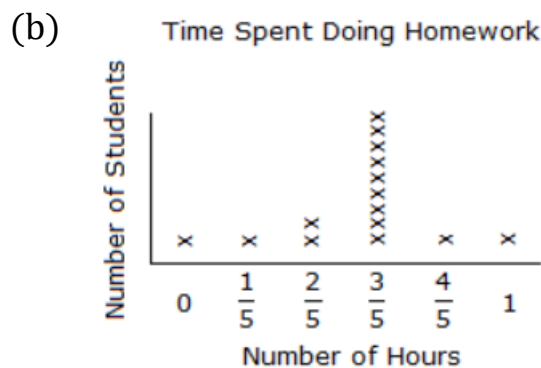
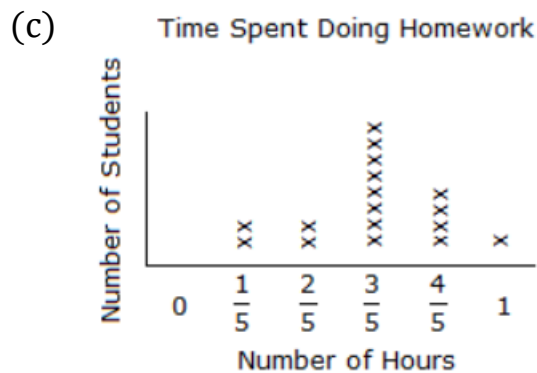
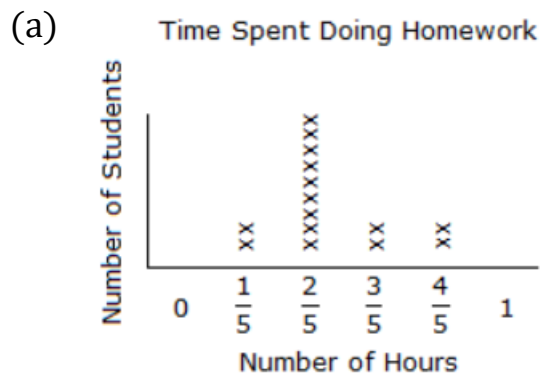
35. Jay is running a race. The race course is  $3\frac{3}{4}$  miles long. Jay has run  $1\frac{1}{5}$  of a mile so far. How many more miles does Jay have left to run to finish the race?

- (a)  $2\frac{1}{10}$                       (b)  $2\frac{11}{20}$                       (c)  $2\frac{1}{5}$                       (d)  $2\frac{2}{20}$

36. The sum of five different positive integers is 500. The largest possible value for one of the integers is \_\_\_\_\_?

- (a) 102                      (b) 490                      (c) 494                      (d) 499

37. Mr. Devoe made a line plot to show the number of hours the 15 students in his class spent doing homework last night.  $\frac{2}{5}$  of the students spent  $\frac{3}{5}$  of an hour doing homework. Which line plot could be the one Mr. Devoe made?



38. Each letter corresponds to its placement in the alphabet, i.e. A=1, Z=26, etc.

What is the value of  $(P - H) \div B \times M$ ?

- (a)  $\frac{4}{13}$                       (b) 52                      (c) 72                      (d)  $58\frac{1}{2}$

39. Ralph wrote a number in which the value of the digit 3 is  $\frac{1}{10}$  of the value of the 3 in the number 9,374.

Which of the following could be Ralph's number?

- (a) 2,135                      (b) 3,618                      (c) 5,703                      (d) 7,328

40. Which of the following problems has the answer "No, Mr. Wells does not have enough"?

- (a) Mr. Wells collects newspapers in his neighborhood to recycle. He wants to be able to recycle 3,456 pounds of paper in 6 weeks. If he collects 556 pounds of paper each week for 5 weeks and 680 pounds of newspaper the sixth week, does he have enough newspapers to meet his goal?
- (b) Mr. Wells takes a 14-day vacation and stays in a motel room that costs \$75 a day. He also plans to spend \$45 a day for food. If Mr. Wells has \$1,650 saved for his vacation, does he have enough money for food and the room?
- (c) Mr. Wells is painting the ceilings in 5 classrooms that each measure 15 feet by 20 feet. He has 30 gallons of paint. If a quart of paint covers 25 square feet, does Mr. Wells have enough paint to paint the 5 ceilings with 2 coats of paint.
- (d) Mr. Wells is helping to serve one cup of soup to 686 people. He wants to give two bread rolls with each cup of soup. He bought 39 packages of rolls with 36 rolls in each package. Does Mr. Wells have enough rolls to serve all 686 people?

41. The scale shows the weight of Camila's new puppy in pounds.



Camila's baby brother weighs 12 pounds and 4 ounces. How many more ounces does Camila's baby brother weigh than her puppy?

- (a) 104                      (b) 108                      (c) 6.75                      (d) 6.9

42. Felicity went to buy equipment and supplies for her lab. She purchased the following:

- 14 rechargeable batteries for a total cost of \$64.86
- Reams of paper that cost 8 times as much as the computer mouse
- A power cord that cost half the cost of the rechargeable batteries
- Computer mouse for \$9

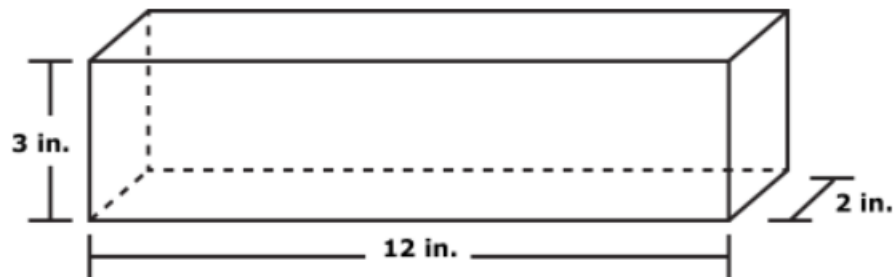
Which of the following shows the correct expression and total for how much she spent on equipment and supplies for her lab?

- (a)  $64.86 + (8 \times 9) + (64.86 \div 2) + 9$   
Total cost: \$178.29
- (b)  $64.86 + (8 \times 9) + (64.86 \div 2) + 9$   
Total cost: \$168.29
- (c)  $64.86 + (8 \times 9) + (64.86 \times 2) + 9$   
Total cost: \$275.58
- (d)  $64.86 + (8 \times 9) + (64.86 \times 2) + 9$   
Total cost: \$266.58

43. What is the smallest whole number which I can multiply by 9 and still get a product whose value is more than 150?

- (a) 16                      (b) 17                      (c) 18                      (d) 19

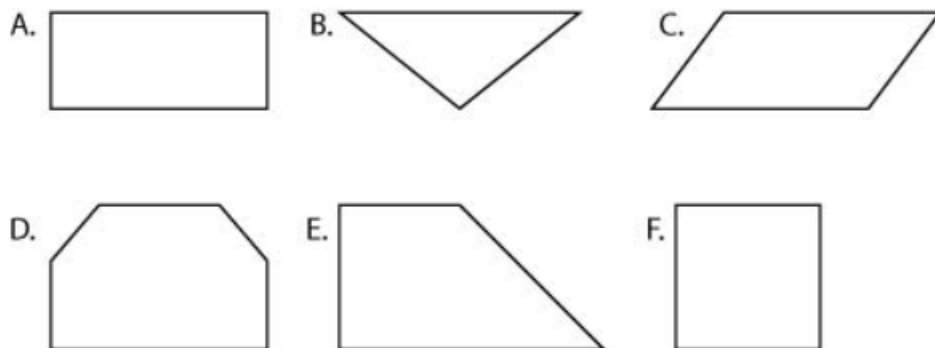
44. Consider the right rectangular prism shown below.



Which of the following equations below could NOT be used to find the volume ( $V$ ) of the prism?

- (a)  $V = 12 \times (2 \times 3)$                       (c)  $V = 24 \times 3$   
(b)  $V = 12 \times 2 \times 3$                       (d)  $V = 14 \times 3$

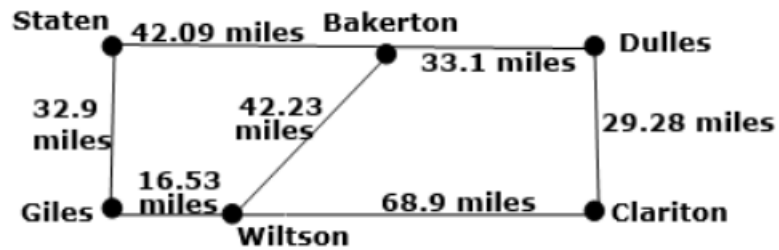
45. Sherlock wants to buy a new table. He is looking at tables with the six different shapes shown below.



He wants to buy a quadrilateral-shaped table top that is also a parallelogram. What letter will NOT fit this description?

- (a) Shape A                      (b) Shape C                      (c) Shape E                      (d) Shape F

46. Below is a map of the cities in Jankay county.



All of the following travel routes between three cities will be at least 74 miles, except \_\_\_\_\_.

- (a) Dulles to Bakerton to Wiltson
- (b) Clariton to Dulles to Bakerton
- (c) Wiltson to Clariton to Dulles
- (d) Bakerton to Staten to Giles

47. On a number line, what is the relationship between  $\frac{2}{7}$  and  $\frac{6}{7}$ ?

- (a) On a number line,  $\frac{2}{7}$  is to the right of  $\frac{6}{7}$  because  $\frac{2}{7} > \frac{6}{7}$ .
- (b) On a number line,  $\frac{2}{7}$  is to the right of  $\frac{6}{7}$  because  $\frac{2}{7} < \frac{6}{7}$ .
- (c) On a number line,  $\frac{2}{7}$  is to the left of  $\frac{6}{7}$  because  $\frac{2}{7} < \frac{6}{7}$ .
- (d) On a number line,  $\frac{2}{7}$  is to the left of  $\frac{6}{7}$  because  $\frac{2}{7} > \frac{6}{7}$ .

48. Your boss has instructed you to arrange a cocktail party for the staff of 75 people, allowing each employee 1 guest. You are responsible for maintaining the budget and ensuring sufficient food is prepared.

Jumbo Shrimp, 16-20 shrimp per pound	\$21.95
Buffalo Wings, 60 count	\$25.49
Cheese Trays, 30 servings	\$65.00
Fresh Fruit, 25 servings	\$52.50
Water, case of 24	\$15.50
Diet Soda, case of 24	\$16.00
Soda, case of 24	\$15.75
Juice, case of 24	\$21.25

You decide to purchase enough cheese trays and fruit trays to feed 150 guests each. What will be the cost for the trays?

- (a) \$640.00      (b) \$117.50      (c) \$587.50      (d) \$705.00
49. It is time to reset the password on your computer. The password must have 8 characters. There must be at least 2 digits; however, they cannot be at the beginning or the end. No more than two letters can be consecutive. There must be at least 2 special characters, which cannot be consecutive and must be separated only by numbers. Given this information, which of the following would be a usable password?
- (a) 7\*2!1l4r      (c) tb19^c6k  
(b) jq@5m8\$z      (d) ad7?4\*3z
50. What is the product of the odd numbers which are greater than 3 and less than 11?
- (a) 21      (b) 35      (c) 105      (d) 315

## 5<sup>th</sup> Grade Answer Key:

1. A	26. D
2. A	27. A
3. D	28. B
4. D	29. C
5. D	30. A
6. B	31. D
7. B	32. D
8. D	33. C
9. C	34. C
10. D	35. B
11. B	36. B
12. A	37. D
13. B	38. B
14. C	39. A
15. B	40. B
16. C	41. B
17. B	42. A
18. C	43. B
19. C	44. D
20. C	45. C
21. D	46. B
22. B	47. C
23. C	48. A
24. A	49. D
25. D	50. D