

2019 Penny Sikes Math Tournament 5th Grade Exam

1. Simplify: $\frac{4}{5} \times \frac{7}{12}$

[A] $\frac{1}{2}$

[B] $\frac{3}{8}$

[C] $\frac{11}{17}$

[D] $\frac{7}{15}$

2. How many whole numbers from 1 to 100 are divisible by 7, but are not divisible by 3?

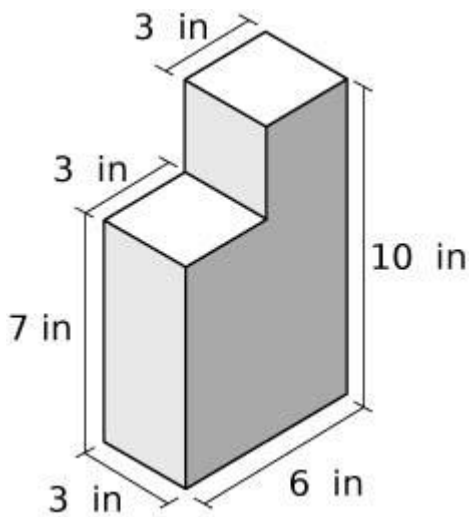
[A] 10

[B] 12

[C] 14

[D] 33

3. Darla makes candles to give as gifts. She needs to know the volume of the candle mold shown below in order to know how much candle wax to buy.



What is the total volume of the candle mold shown?

[A] 126 *cu in.*

[B] 153 *cu in.*

[C] 180 *cu in.*

[D] 540 *cu in.*

4. What is the perimeter of a rectangle with a length of 5 and a width of 8?

[A] 13

[B] 26

[C] 40

[D] 80

5. Sophia asked the students in her class to name their favorite sport. She made this list to display the results.

- $\frac{1}{3}$ of the students named basketball
- $\frac{1}{8}$ of the students named soccer
- $\frac{5}{12}$ of the students named football
- The rest of the students in the class named baseball.

What fraction of the students in the class named baseball as their favorite sport?

[A] $\frac{1}{8}$

[B] $\frac{3}{8}$

[C] $\frac{16}{23}$

[D] $\frac{7}{8}$

6. Which expression is equal to $1 - \frac{1}{2} + \frac{3}{6}$?

A] $\frac{1}{6} - \frac{3}{6} + \frac{3}{6}$

[B] $\frac{1}{6} - \frac{3}{6} + \frac{2}{6}$

[C] $\frac{6}{6} - \frac{3}{6} + \frac{2}{6}$

[D] $\frac{6}{6} - \frac{3}{6} + \frac{3}{6}$

7. 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] $0.17 < 0.091$

8. The length of a swimming pool would best be measured by

[A] centimeters

[B] millimeters

[C] meters

[D] kilometers

9. 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

10. Nick is making two different types of bread. He needs $3\frac{2}{3}$ cups of flour for one type and $5\frac{3}{4}$ cups of flour for the other type. How many cups of flour will Nick need to make both types of bread?

[A] $8\frac{1}{2}$ cups

[B] $8\frac{5}{7}$ cups

[C] $9\frac{3}{12}$ cups

[D] $9\frac{5}{12}$ cups

11. Which has the greatest area?

[A] a rectangle 1 yd x 3 ft

[B] a rectangle 2 ft x 4 ft

[C] a rectangle 12 in x 3 in

[D] a rectangle 3 ft x 4 in

12. Evaluate $4x + 6y$ if $x = 2$ and $y = 4$

[A] 16

[B] 24

[C] 32

[D] 106

13. Rochelle and her classmates have been collecting stuffed animals. They recorded the number of stuffed animals that each student has below.

10, 8, 5, 12, 4, 9, 20

Which statement below is true about the data?

[A] The range of the data is 9

[B] The mode of the data is 9

[C] The mean of the data is 9

[D] The median of the data is 9

14. On Sunday, Doug started recording how many minutes he had read for the week. He also started recording how many minutes he had practiced the trumpet for the week. The table below shows the totals for the first four days.

Day	Total Minutes Spent Reading	Total Minutes Spent Practicing Trumpet
Sunday	12	15
Monday	24	30
Tuesday	36	45
Wednesday	48	60

Both patterns continue. Which statement about the patterns created by the numbers of minutes Doug has spent reading and practicing his trumpet this week is true?

- [A] The number 90 will appear in both patterns.
- [B] Both patterns switch back and forth between even and odd numbers.
- [C] The sum of the corresponding terms in the patterns is always divisible by 3.
- [D] The difference between corresponding terms in the patterns is always a multiple of 6.
15. Evaluate: $\frac{2}{3} + \frac{3}{5}$

[A] $\frac{5}{8}$

[B] $\frac{14}{15}$

[C] $\frac{2}{5}$

[D] $\frac{19}{15}$

16. What is $46.79 \div 10$?

[A] 0.4679

[B] 4.679

[C] 467.9

[D] 4679

17. What is the standard form of forty-five and nine tenths?

[A] 45.009

[B] 45.09

[C] 45.9

[D] 45.910

18. If 3 splishes = 2 splashes, then 18 splashes = ____ splishes.

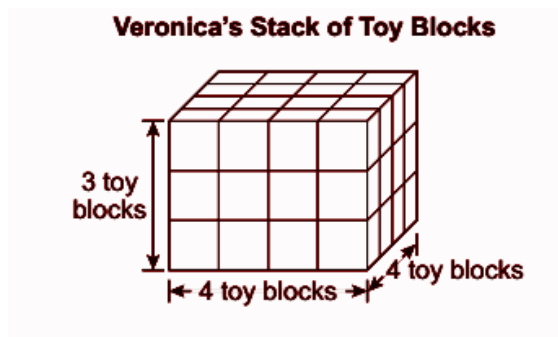
[A] 12

[B] 27

[C] 36

[D] 48

19. Veronica stacked toy blocks to form the shape shown below.



How many blocks are in Veronica's stack of toy blocks.

[A] 11

[B] 30

[C] 40

[D] 48

20. Andrea has $\frac{1}{4}$ of a sack of rice. She divides the rice equally into 7 bags. What fraction of the full sack of rice is in each bag?

[A] $\frac{1}{28}$

[B] $\frac{1}{7}$

[C] $\frac{2}{11}$

[D] $\frac{11}{28}$

21. You have found a pair of shoes that you really like with a price of \$45. You notice that they are currently on sale for 40% off of the usual price. What is the sale price of the shoes?

[A] \$18.00

[B] \$27.00

[C] \$45.40

[D] \$63.00

27. A rectangular piece of paper is folded in half. It is folded in half again. If the paper is folded in half three more times, how many sections will there be when the paper is completely unfolded?

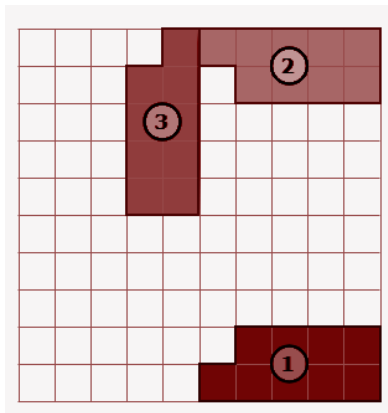
[A] 8

[B] 16

[C] 32

[D] 64

28. Which order of transformations will map Figure 1 to Figure 3?



[A] Translation, then reflection

[B] Reflection, then translation

[C] Rotation, then reflection

[D] Reflection, then rotation

29. Sandra plays basketball and makes 50% of the free throws that she attempts. Nesa makes 70% of the free throws that she attempts. If they both attempt 20 free throws, how many more free throws will Nesa make than Sandra?

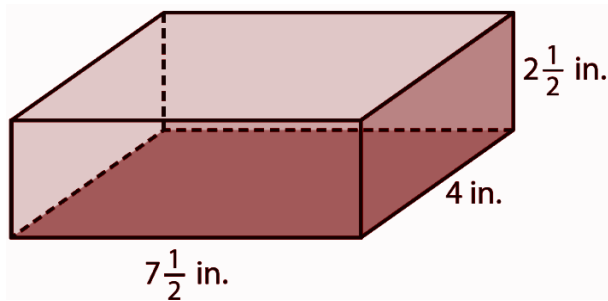
[A] 4

[B] 5

[C] 10

[D] 14

30. What is the volume of the rectangular prism?



[A] 57.5 cu in

[B] 60 cu in.

[C] 75 cu in.

[D] 117.5 cu in

31. Patterns A and B are generated using these rules.

- Pattern A: Start with 12 and add 6.
- Pattern B: Start with 4 and add 2.

Which statement BEST describes the relationship between the corresponding terms of Pattern A and Pattern B?

[A] Each term in Pattern A is $\frac{1}{3}$ times the value of the corresponding term in Pattern B.

[B] Each term in Pattern A is 3 times the value of the corresponding term in Pattern B.

[C] Each term in Pattern A is 4 more than the value of the corresponding term in Pattern B.

[D] Each term in Pattern A is 8 more than the value of the corresponding term in Pattern B.

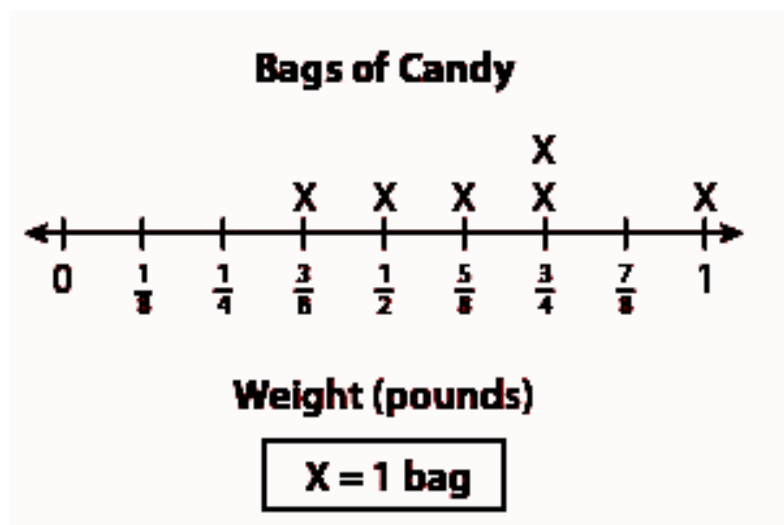
32. Put the runners' times in order from fastest to slowest. (Remember, the fastest time is the LEAST amount of seconds)

John	13.152 seconds
Bob	13.148 seconds
Mary	13.15 seconds
Sue	13.025 seconds
Margo	13.1 seconds

- [A] John, Bob, Mary, Margo, Sue
 [C] Sue, Mary, Margo, Bob, John

- [B] John, Mary, Bob, Margo, Sue
 [D] Sue, Margo, Bob, Mary, John

33. Mr. Turner measures the amount of candy, in pounds, in 6 bags. He plots each amount on a line plot as shown below.



He combines all of the candy and then divides it equally into the 6 bags. How much candy does he put in each bag?

- [A] $\frac{3}{5}$ pounds [B] $\frac{2}{3}$ pounds [C] $\frac{1}{3}$ pound [D] $\frac{1}{4}$ pound

34. You are saving money to buy a new video game that is \$52.00. You already have \$17 and plan to save \$4 per week from your allowance. How long will it take you to save enough money?

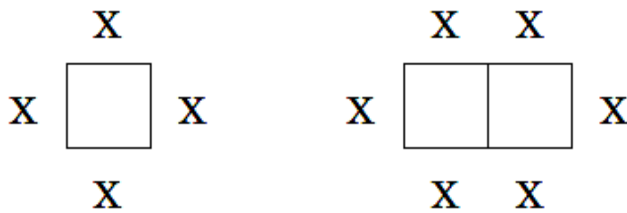
[A] 5 weeks

[B] 7 weeks

[C] 8 weeks

[D] 9 weeks

35. The librarian is setting up tables in the media center. He can place 4 chairs around one table. If he pushes 2 tables together, he can place six chairs around the table.



If 22 people need to sit around the table, how many tables should the librarian push together?

[A] 8

[B] 9

[C] 10

[D] 11

36. Bailey wrote two numbers, as shown below.

1. 3,586,927

2. 3,859,672

Which is a correct comparison of the digits in Bailey's numbers?

[A] The value of the digit 6 in the first number is $\frac{1}{10}$ the value of the digit 6 in the second number.

[B] The value of the digit 7 in the first number is 10 times the value of the digit 7 in the second number.

[C] The value of the digit 8 in the first number is $\frac{1}{10}$ the value of the digit 8 in the second number.

[D] The value of the digit 9 in the first number is 10 times the value of the digit 9 in the second number.

37. A city planner needs to provide dimensions on blueprints in both standard and metric measurement units. The chart below shows some equivalent measures.

Length	Equal Length
1 foot	30.48 centimeters
1 yard	1.09 meters

Using the information in the chart, choose the equation that represent correct equivalent measurements the city planner may have made.

[A] $10 \text{ yd} = 109 \text{ m}$

[B] $10^4 \text{ ft} = 30,480 \text{ cm}$

[C] $10^3 \text{ ft} = 304.8 \text{ cm}$

[D] $10^2 \text{ ft} = 3,048 \text{ cm}$

38. Tom fed his chickens with grains on Sunday. The chickens ate a quarter of what was given to them that day. On Monday, the chickens ate a quarter of what was left on Sunday night. What fraction of the original food was left on Monday night after the chickens went to bed?

[A] $\frac{1}{16}$

[B] $\frac{1}{2}$

[C] $\frac{3}{16}$

[D] $\frac{9}{16}$

39. Three angles of a quadrilateral measure 73° , 93° , and 34° . What is the measure of the fourth angle?

[A] 120°

[B] 130°

[C] 160°

[D] 200°

40. Landon's age in 10 years will be 4 more than twice his age now. What is Landon's current age?

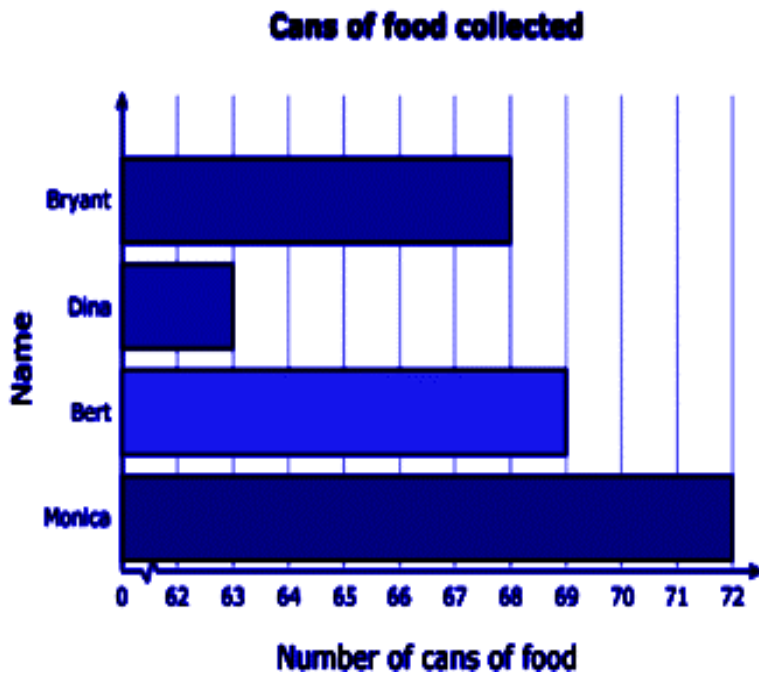
[A] 4

[B] 6

[C] 12

[D] 14

41. Bryant's class recorded how many cans each student collected for a canned food drive.



What percent of the total number of cans shown did Bryant collect?

- [A] 25% [B] 33% [C] 42% [D] 68%

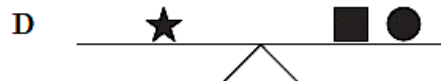
42. Mikayla bought 2 cases of soda for a total of \$9.12. Each case contains 24 sodas. What is the cost of each soda?

- [A] \$0.15 [B] \$0.19 [C] \$0.38 [D] \$0.76

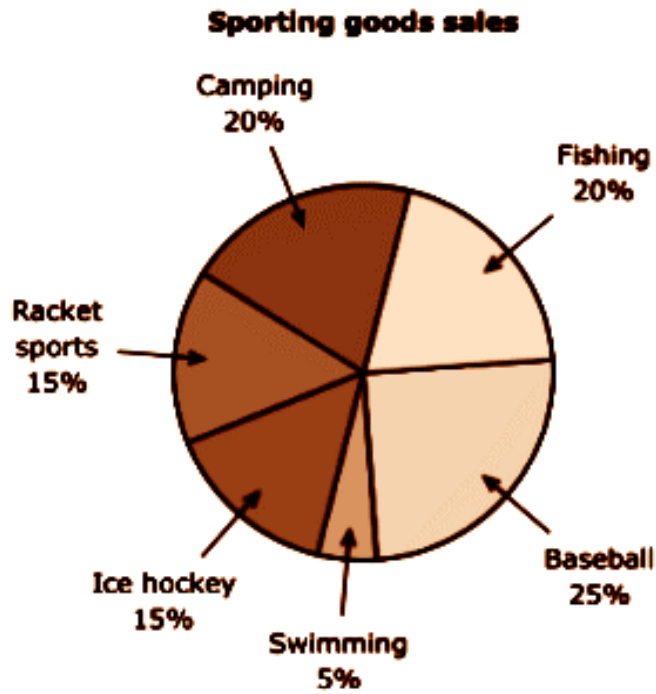
43. Maria gets up in the morning and checks her watch against the TV and sets the time to 7:00 am. School is over at 3:00 pm. When Maria checked her watch when school was over, it showed 2:20 pm. If Maria's watch slows down the same amount of time each hour, how many minutes does her watch slow down each hour?

- [A] 4 min [B] 5 min [C] 8 min [D] 16 min

44. If , which of the following is true?



45. A sporting goods store records its yearly revenue in each category of goods.



Last year, the store's total revenue was \$120,000. How much was earned from swimming?

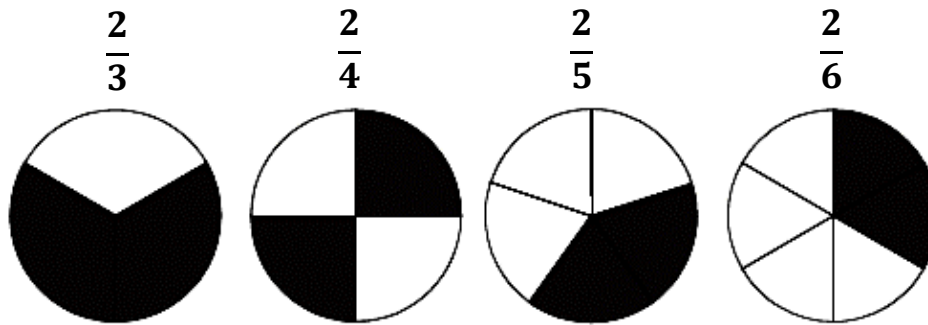
[A] \$2,500

[B] \$4,500

[C] \$6,000

[D] \$7,500

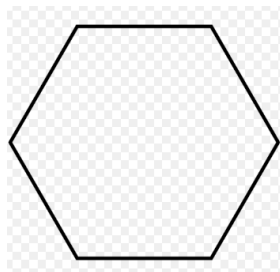
46. Shari studied these pictures of fractions.



What pattern might she correctly notice in the fractions?

- [A] Increasing the denominator increases the value of the fraction.
- [B] If the denominator stays the same and the numerator increases, the value of the fraction becomes smaller.
- [C] Increasing the denominator by 2 cuts the size of the fraction in half.
- [D] If the numerator stays the same and the denominator increases, the value of the fraction becomes smaller.

47. How many lines of symmetry does the regular hexagon have?



[A] 3

[B] 4

[C] 6

[D] 12

48. I multiplied 1111×1111 and wrote down the product. When I wrote the product, the largest **odd** digit that I wrote was

[A] 1

[B] 3

[C] 4

[D] 5

49. Tracy spent \$80 purchasing food for her company picnic. There will be 20 people eating at the picnic. She will purchase hotdogs for half of the people and hamburgers for the other half. Everyone will get a bag of chips. If each bag of chips is \$1.00 and hamburgers cost \$3.50 each, how much is each hot dog?

[A] \$1.50

[B] \$2.50

[C] \$3.00

[D] \$3.50

50. The students in Jack's school are collecting books. There were a total of 7 boxes of books collected, each containing 64 books. If there were 8 students collecting books, what was the mean number of books collected per student?

[A] 26

[B] 42

[C] 52

[D] 56

2019 5th Grade Individual Test
ANSWER KEY

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