

MMLA Mathematics Assessment Items

Name: _____

Date: _____

Multiple Choice Questions

Select the one best answer for each question.

- Which of the following sets of numbers are **all** of the factors of 24?
 - 1, 3, 8, 24
 - 2, 4, 6, 8, 12, 24
 - 2, 3, 4, 6, 8, 12
 - 1, 2, 3, 4, 6, 8, 12, 24

- Which of the following numbers is a multiple of 8.
 - 18
 - 28
 - 44
 - 56

- The following are all multiples of a one-digit number: 12, 24, 30, 42. Identify the one-digit factor common to each multiple.
 - 5
 - 6
 - 7
 - 8

4. Which of the following sets of numbers are all multiples of 7?
- A. 35, 47, 52
 - B. 35, 36, 37
 - C. 35, 42, 49
 - D. 37, 47, 57
5. Al sees this sign at a copy center. What is the least number of copies Al can make without losing any money?

1. *Copies cost 10¢ each.*
 2. *Copy machines only take quarters.*
 3. *Copy machines do NOT make change.
If you make 1 copy, you will NOT get 15¢ back.*

- A. 5
 - B. 30
 - C. 75
 - D. 150
6. Which of the following is NOT true about prime numbers?
- A. They have exactly two factors
 - B. One is a factor of every prime number
 - C. No prime numbers end in zero
 - D. All prime numbers are odd numbers.

7. I am a factor of 36 and a multiple of 3. What number am I?
- A. 2
 - B. 4
 - C. 12
 - D. 15
8. Since $4 \times 10 = 40$, and $40 \times 5 = 200$, then which of the following is true?
- A. $14 \times 45 = 200$
 - B. $4 \times 10 \times 5 = 200$
 - C. $4 \times 10 \times 40 = 200$
 - D. $40 \times 10 \times 5 = 200$
9. My number is a multiple of 5. It is less than 100 and has a factor of 6. What is my number?
- A. 25
 - B. 36
 - C. 60
 - D. 66
10. Solve $136 - 67$.
- A. 61
 - B. 69
 - C. 71
 - D. 79

11. Solve $206 - 48$.

A. 158

B. 242

C. 162

D. 262

12. Which expression is equal to 3×49 ?

A. $3 \times (4 + 9)$

B. $3 + (40 \times 9)$

C. $3 \times (40 + 9)$

D. $(3 \times 4) + (3 \times 9)$

13. Which expression is equal to 83×5 ?

A. $80 \times (3 + 5)$

B. $(80 \times 5) + (3 \times 5)$

C. $(5 \times 80) + 3$

D. $(80 \times 5) + (80 \times 3)$

14. Sari was asked to describe how to find the answer to 28×7 to her class. Which explanation makes the most sense?
- A. I added $20 + 7$ to get 27 and I added $20 + 8$ to get 28. Then I multiplied 27 by 28 to get 756. So $28 \times 7 = 756$.
 - B. I multiplied 20×8 to get 160. Then I multiplied 20×7 to get 140. I added $160 + 140$ to get 300. So $28 \times 7 = 300$.
 - C. I multiplied 20×7 and got 140. Then I did 8×7 and got 56. So I added 140 to 56 to get 196. So, $28 \times 7 = 196$.
 - D. I did $28 + 28$ and got 56. I did that 7 times. So I added 56 seven times to get 392. So, $28 \times 7 = 392$.

15. Solve:

$$\begin{array}{r} 2,749 \\ \times 8 \\ \hline \end{array}$$

- A. 16,563,272
 - B. 22.001
 - C. 22,692
 - D. 21,992
16. What is 1486 divided by 3?
- A. 4,812 r0
 - B. 495 r1
 - C. 280 r10
 - D. 496 r0

17. What is the value of this expression? (Do not use a calculator to find the answer)
(MEAP)

$$420 \div 4$$

- A. 15
 - B. 100
 - C. 105
 - D. 150
18. There are 168 lunches to be shared equally among 3 fourth-grade classes. How many lunches will go to each class? (Do not use a calculator to find the answer)
(MEAP)

- A. 56
- B. 165
- C. 171
- D. 504

19. What is the value of this expression? (Do not use a calculator to find the answer)
(MEAP)

$$3750 \div 10$$

- A. 370
- B. 375
- C. 3740
- D. 37500

20. Which division problem is correct? (Do not use a calculator.)

A. $4,836 \div 6 = 86$

B. $4,836 \div 6 = 806$

C. $3,215 \div 5 = 641$

D. $3,215 \div 5 = 603$

21. If $600 \div A = 300$, what is A?

A. 200

B. 30

C. 20

D. 2

22. Fill in the blank with the number that makes this math sentence correct:

$12 \times \underline{\quad} = 60$

A. 7

B. 4

C. 6

D. 5

23. What value of a makes the number sentence true? (MEAP)

$$100 \div a = 20$$

- A. 4
 - B. 5
 - C. 80
 - D. 120
24. Which value of g makes the number sentence true? (MEAP)

$$g \div 8 = 32$$

- A. 4
 - B. 24
 - C. 40
 - D. 256
25. The students in your class collected pop cans to raise money for a class trip. The goal for each student was to collect 150 cans each. There are 27 students in your class. How many cans would that be altogether?
- A. 177 cans
 - B. 405 cans
 - C. 1350 cans
 - D. 4050 cans

26. Suppose 33 photos are placed in a photo album. How many pages are needed if 3 photos fit on a page?
- A. 9 pages
 - B. 10 pages
 - C. 11 pages
 - D. 12 pages
27. Which answer means the same as \$12.49?
- A. one and two forty nines
 - B. twelve and forty nine
 - C. twelve and forty nine tenths
 - D. twelve and forty nine hundredths
28. Mr. Clark was given some change at the grocery store. He was given 5 one dollar bills, 6 quarters, 2 dimes, and a penny. How much change did he get?
- A. \$5.62
 - B. \$6.71
 - C. \$56.21
 - D. \$6.21

29. What decimal part of one dollar is the sum of these coins? (MEAP)

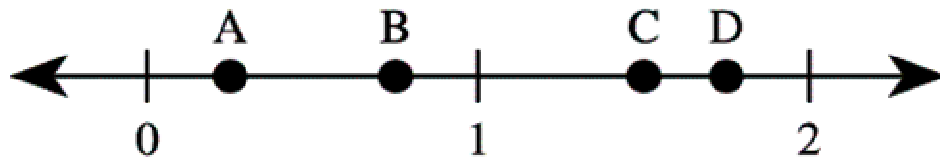


- A. 2.00
- B. 0.20
- C. 0.02
- D. 0.22

30. What is another way to write 0.7 inches? (MEAP)

- A. $\frac{7}{10000}$ inches
- B. $\frac{7}{1000}$ inches
- C. $\frac{7}{100}$ inches
- D. $\frac{7}{10}$ inches

31. Which point on the number line below *best* represents 1.75? (MEAP)



- A. Point A
- B. Point B
- C. Point C
- D. Point D

32. Which number is the same as one fourth?

A. 0.4

B. 0.04

C. 0.25

D. 0.75

33. Which number is the same as .5?

A. one half

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

C. five hundredths

D. $\frac{5}{1000}$

34. How is eighteen hundredths written in standard form? (MEAP)

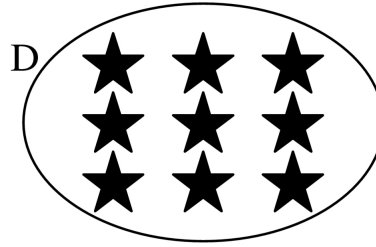
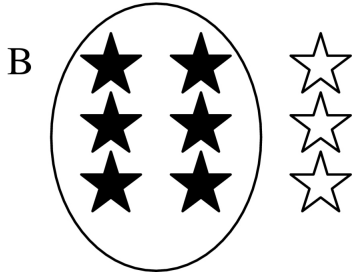
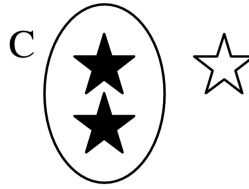
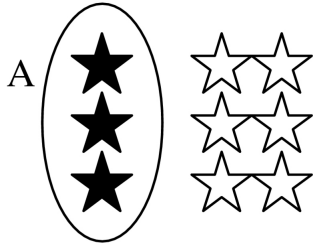
A. 0.018

B. 0.18

C. 18.00

D. 1800

35. Choose the circled group that represents $\frac{1}{3}$.



- A. A
- B. B
- C. C
- D. D

36. There are 4 red cars, 5 blue cars, and 2 green cars in the parking lot. What is the fraction of blue cars in the parking lot?

- A. $\frac{5}{4}$
- B. $\frac{5}{9}$
- C. $\frac{5}{11}$
- D. $\frac{11}{5}$

37. What is the fraction for the shaded part of this set?



- A. $\frac{3}{8}$
- B. $\frac{3}{4}$
- C. $\frac{3}{7}$

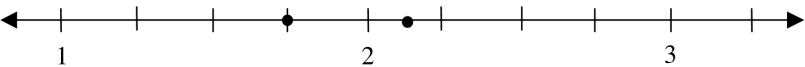
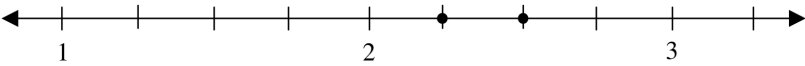
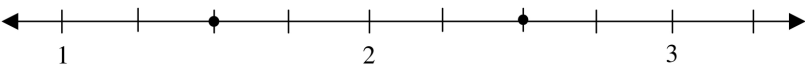
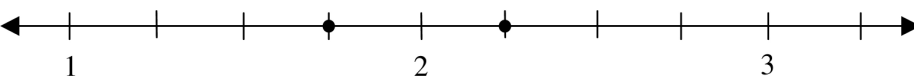
38. Look at this set of objects. Which fraction stands for the part of the set that is shaded?



- A. $\frac{3}{5}$
- B. $\frac{5}{3}$
- C. $\frac{5}{8}$
- D. $\frac{3}{8}$

39.

Which number line shows these two fractions? $\frac{5}{2}$ $2\frac{1}{4}$

- A. 
- B. 
- C. 
- D. 

40. How many twelfths equal

$$\frac{5}{6}$$

A. $\frac{10}{12}$

B. $\frac{11}{12}$

C. $\frac{6}{12}$

D. $\frac{5}{12}$

41. How many eighths equal

$$\frac{1}{4}$$

A. $\frac{1}{8}$

B. $\frac{2}{8}$

C. $\frac{4}{8}$

D. $\frac{7}{8}$

42. Convert this improper fraction into a mixed number.

$$\frac{11}{2}$$

A. $11\frac{1}{2}$

B. $\frac{2}{11}$

C. $4\frac{1}{2}$

D. $5\frac{1}{2}$

43. Which of the following is listed from smallest to largest?

A. $\frac{11}{4}, \frac{15}{6}, 2\frac{7}{12}$ □

B. $\frac{15}{6}, \frac{8}{3}, 2\frac{7}{12}$

C. $\frac{15}{6}, 2\frac{7}{12}, \frac{8}{3}$

D. $\frac{8}{3}, 2\frac{7}{12}, \frac{11}{4}$

44. Which of the following is closest to the sum of 811 and 356? Do not use a calculator for this problem.

A. 1400

B. 1300

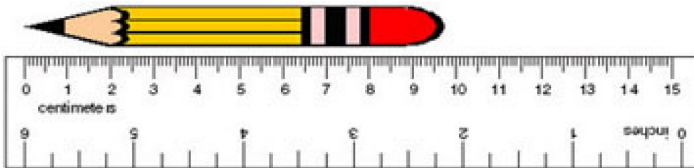
C. 1200

D. 1100

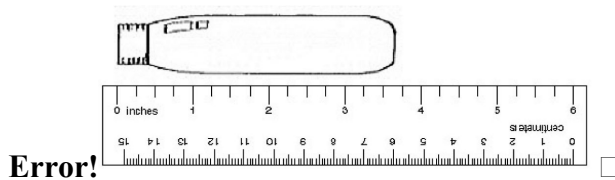
45. Which answer is the closest estimate for $6500 + 310$? Do not use a calculator for this problem.
- A. 6800
 - B. 7500
 - C. 9500
 - D. 9600
46. Which of the following is closest to the product of 81 and 82? Do not use a calculator for this problem.
- A. 6400
 - B. 7200
 - C. 720
 - D. 64,000
47. In which of the following situations is it NOT appropriate to approximate?
- A. How much television you watch?
 - B. How many video games you own?
 - C. How much medicine you take when you are sick?
 - D. How much your puppy weighs?

48. One hundred fourth graders at Blair Moody Elementary are attending a field day. The teachers need to know how many hot dogs to buy. All of the following are reasonable approximations EXCEPT:
- A. 100 hot dogs
 - B. 150 hot dogs
 - C. 200 hot dogs
 - D. 50 hot dogs

49. This pencil is about how many centimeters long?

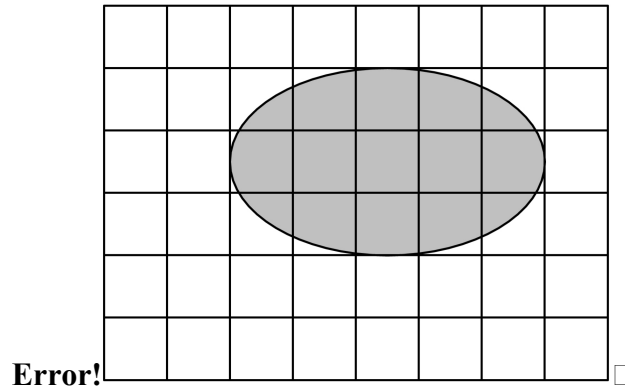


- A. 9 cm
 - B. 10 cm
 - C. 11 cm
 - D. 12 cm
50. What is the length of this lightbulb to the nearest inch?

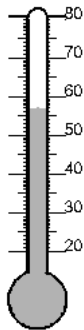


- A. 2 in
- B. 3 in
- C. 4 in
- D. 5 in

51. What is the best estimate of the area, in square centimeters, of the **shaded figure** on the grid below? One square equals one square centimeter.

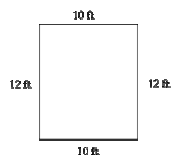


- A. 5 square centimeters
 - B. 11 square centimeters
 - C. 13 square centimeters
 - D. 15 square centimeters
52. What temperature is shown on this thermometer, to the nearest degree?



- A. 50°C
- B. 55°C
- C. 57°C
- D. 60°C

53. When Nick broke his wrist he was told it would be 3 weeks before his cast could be taken off. How many days was that?
- A. 9 days
 - B. 18 days
 - C. 21 days
 - D. 22 days
54. Bobbie was writing an article for the school newspaper about the amount of homework the 4th grade teachers were assigning. He was surprised to find out that the average student only spent 20 minutes per night doing homework. To make it sound longer, he decided to convert the time from minutes to seconds in the article. How many seconds did the average student spend on homework?
- A. 80 seconds
 - B. 120 seconds
 - C. 800 seconds
 - D. 1,200 seconds
55. Nikki planned to buy a wall paper border for her bedroom. She measured the lengths of the walls and found the perimeter of her room. Use the picture below to determine the perimeter.



- A. 22 ft.
- B. 34 ft.
- C. 44 ft.
- D. 120 ft.

56. Using the formulas for finding perimeter and area, what is the area of figure A?

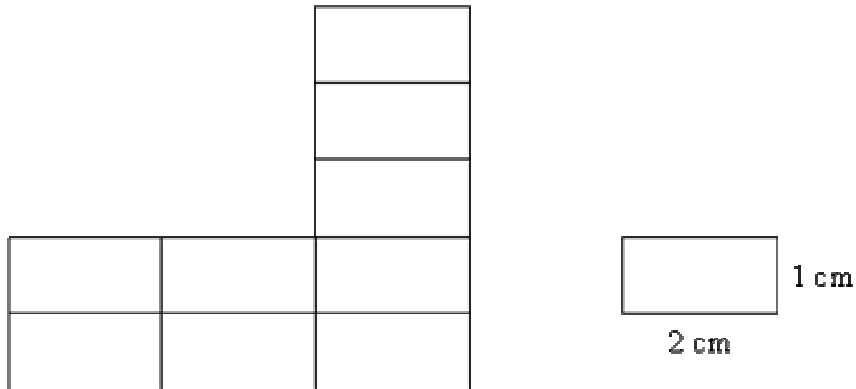
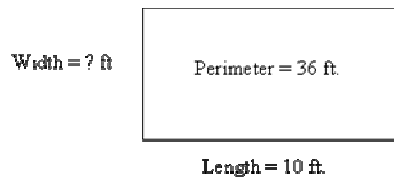


Figure A

- A. 18 sq cm
B. 22 sq cm
C. 32 sq cm
D. 54 sq cm
57. Christina had a rectangular garden with a perimeter of 36 feet. The fence surrounding it was falling down on one of the short sides (width). If the length of the garden was 10 feet, how many feet of fence did she need to replace the broken portion (width) of the fence?

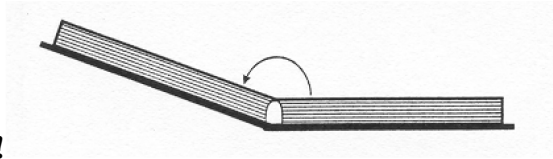


- A. 6 feet
B. 8 feet
C. 10 feet
D. 26 feet

58. If the perimeter of a square is 48 cm , what is the length of each side?

- A. 8 cm
- B. 10 cm
- C. 12 cm
- D. 24 cm

59. Sarah opens her book. What is the angle formed by the open book?

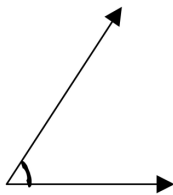


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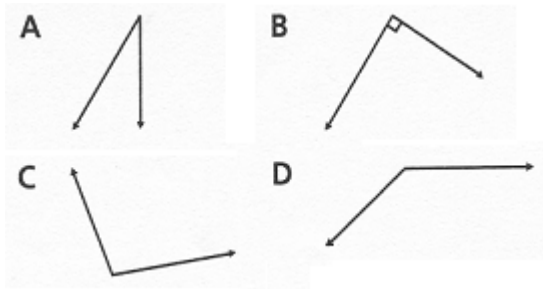
- A. less than a right angle
- B. equal to a right angle
- C. greater than a right angle
- D. cannot tell without a picture of a right angle

60. What is the size of this angle?



- A. less than a right angle
- B. equal to a right angle
- C. greater than a right angle
- D. cannot tell without a picture of a right angle

61. Which angle is a right angle?



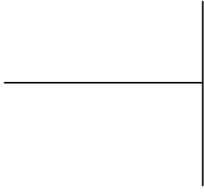
- A. A
- B. B
- C. C
- D. D

62. The school crossing guard holds out her arms to stop traffic. What kind of angle is formed by the guard's arms?



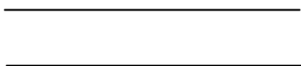
- A. less than a right angle
- B. equal to a right angle
- C. greater than a right angle
- D. cannot tell without a picture of a right angle

63. These lines are



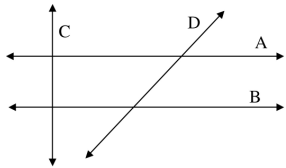
- A. parallel
- B. perpendicular
- C. not intersecting

64. The lines are



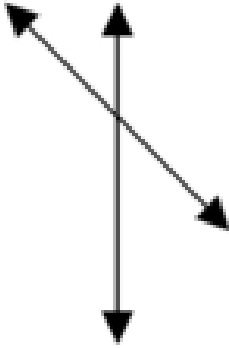
- A. parallel
- B. perpendicular
- C. intersecting

65. In the drawing below, which line is parallel to line A?



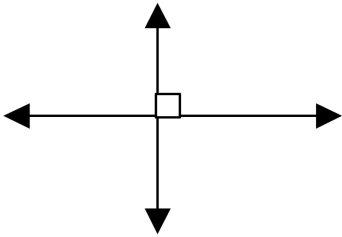
- A. none of them
- B. B
- C. C
- D. D

66. These lines are



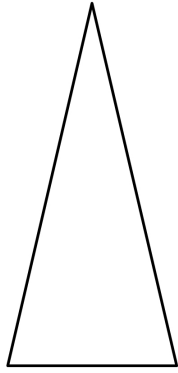
- A. perpendicular
- B. square
- C. intersecting
- D. parallel

67. These lines are



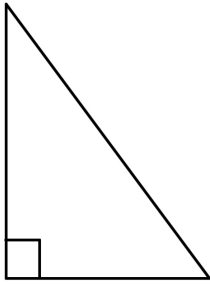
- A. perpendicular
- B. congruent
- C. not intersecting
- D. parallel

68. Which type of triangle has only two equal sides, like the drawing below?



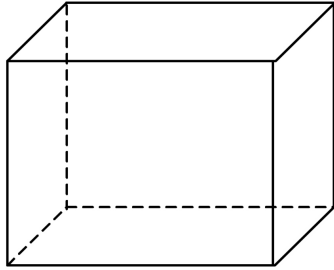
- A. equilateral triangle
- B. isosceles triangle
- C. pyramid
- D. right triangle

69. Which geometric figure is shown here?



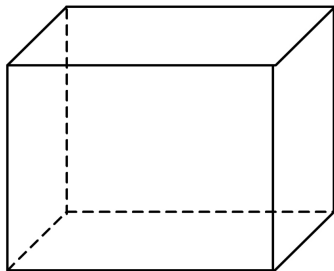
- A. equilateral triangle
- B. isosceles triangle
- C. pyramid
- D. right triangle

70. How many vertices does this box have?



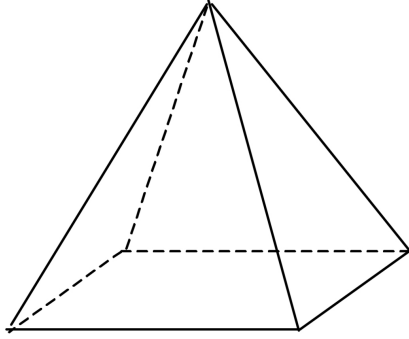
- A. 6 vertices
- B. 8 vertices
- C. 12 vertices
- D. 18 vertices

71. How many faces does this figure have?



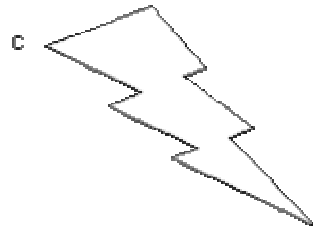
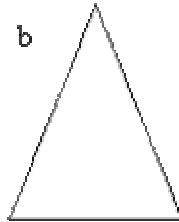
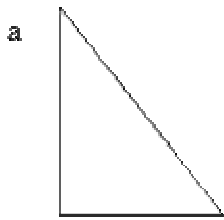
- A. 4 faces
- B. 6 faces
- C. 8 faces
- D. 12 faces

72. How many faces does this figure have?



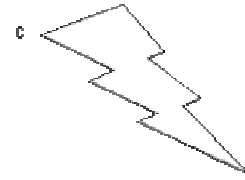
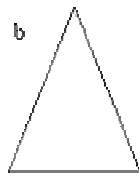
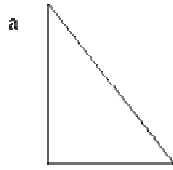
- A. 2 faces
- B. 3 faces
- C. 4 faces
- D. 5 faces

73. Which of these shapes can be folded in half so that both halves are the same?



- A. a
- B. b
- C. c

74. Which of these shapes has line symmetry? Show this by drawing the line of symmetry on the figure, then choosing the correct answer.



- A. a
- B. b
- C. c

75. Which transformation has taken place to figure A to create figure B?

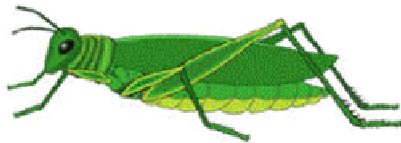


Figure A

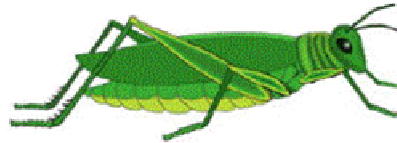


Figure B

- A. tessellation
- B. copy
- C. flip
- D. slide

76. Laura wrote 200 words on the first page of her journal. After the second page, she had 400 words. If the pattern continues, how many pages will it take her to write 1000 words? Continue to fill in the table to find the answer.

Page Number	Words	Total words
1	200	200
2	200	400
3		
4		
5		
6		
7		
8		

- A. 3
- B. 4
- C. 5
- D. 6
77. What is the median number for this set of data? {2, 2, 3, 5, 10, 10, 10}
- A. 5
- B. 6
- C. 7
- D. 8
78. What is the range for this set of numbers?

8 11 18 11 20 9

- A. 8
- B. 11
- C. 12
- D. 20

79. What is the median for this set of numbers?

2 8 4 4 15 7 14

- A. 4
- B. 7
- C. 8
- D. 13

80. In which set is the median the same as the range?

- A. 3, 4, 6, 8, 3, 4
- B. 2, 4, 5, 6, 4
- C. 1, 5, 6, 10, 4
- D. 7, 8, 3, 6, 1

- 81.** The number of points scored in 9 football games is listed below. Find the range of points scored.

GAME	POINTS
1	7
2	13
3	18
4	24
5	7
6	9
7	3
8	18
9	13

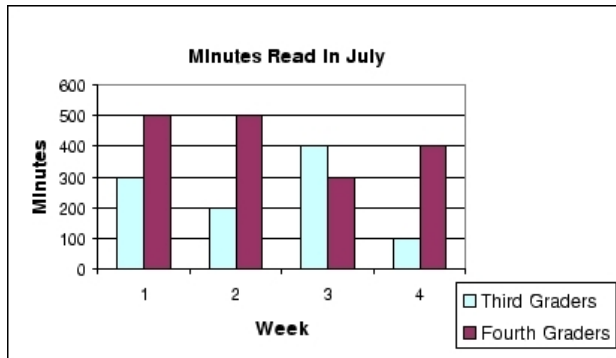
- A. 8
- B. 9
- C. 12
- D. 21
- 82.** Find the range of: 4, 12, 13, 6, 5, 8.

- A. 4
- B. 8
- C. 9
- D. 13

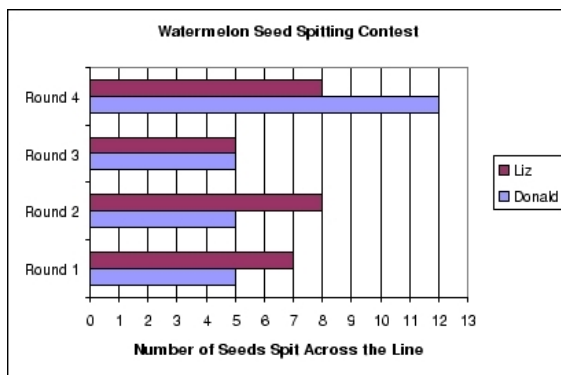
- 83.** Find the median of: 9, 4, 3, 7, 2, 8, 4.

- A. 4
- B. 5
- C. 6
- D. 7

84. During July, the third and fourth graders kept track of the number of minutes they read each week. Use this graph to figure out how many minutes total the third graders read in July.

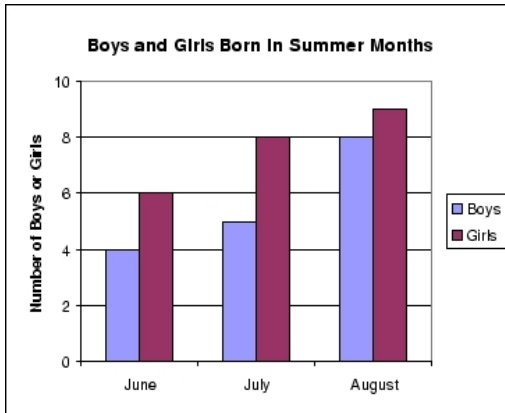


- A. 250
 B. 400
 C. 1000
 D. 2700
85. How many more total seeds did Liz spit across the line than Donald, in all 4 rounds?



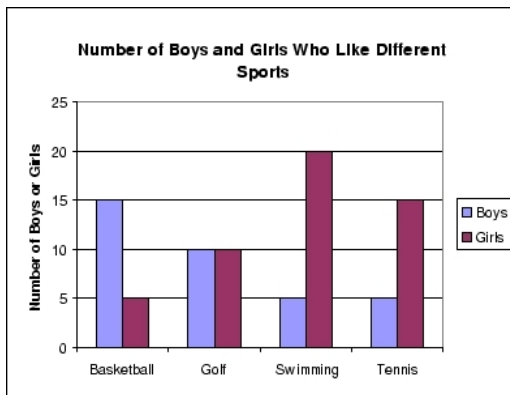
- A. 1
 B. 4
 C. 5
 D. 7

86. How many more girls were born in June through August than boys?



- A. 5
- B. 6
- C. 7
- D. they are the same

87. How many more boys like basketball than girls?



- A. 5
- B. 10
- C. 15
- D. 20

Open-Ended Questions

Provide your answer in the space provided.

1. Mr. Smith is setting up chairs for an assembly of 50 students.

Using all factors of 50, list the different possibilities for arranging the chairs in rectangular arrays.

2. Do the following multiplications. Show your work. (Do not use a calculator.)

$$52,667 \times 5$$

$$452 \times 41$$

3. Do the following divisions. Show your work. (Do not use a calculator.)

$$1524 \div 6$$

$$380 \div 10$$

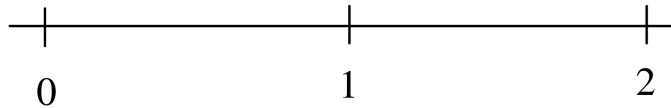
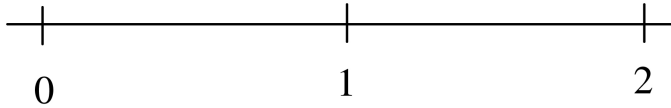
$$4235 \div 10$$

4. Shade $\frac{3}{5}$ of the boxes below:



5. Place these two fractions on the two number lines below to show why they are equivalent.

$$\frac{6}{8} \quad \frac{3}{4}$$



6. Show how these two fractions are equal by shading some of each rectangle.

$$\frac{1}{2} \quad \frac{2}{4}$$



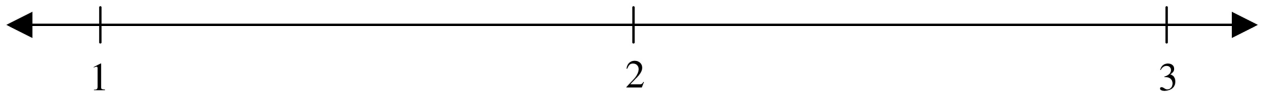
7. Explain how these two fractions are equal.

$$\frac{1}{3} \quad \frac{2}{6}$$

You may use fraction bars or number lines to illustrate your explanation.

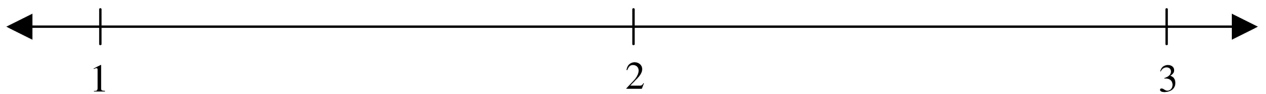
8. Locate these two fractions on the number line, label each, then explain which is larger.

$$2\frac{7}{12} \quad \frac{11}{4}$$



9. Locate and label these two fractions on the number line. Then tell which is larger.

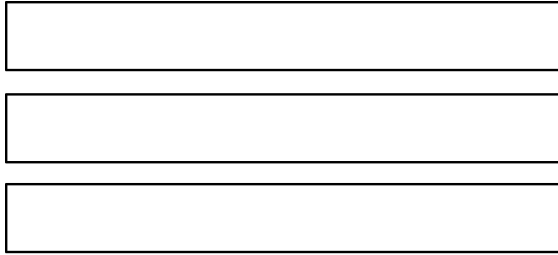
$$2\frac{1}{2} \quad \frac{3}{2}$$



Which is larger? _____

10. On the strips below, shade and label the following fractions.

$$\frac{2}{3} \quad \frac{4}{6} \quad \frac{8}{12}$$



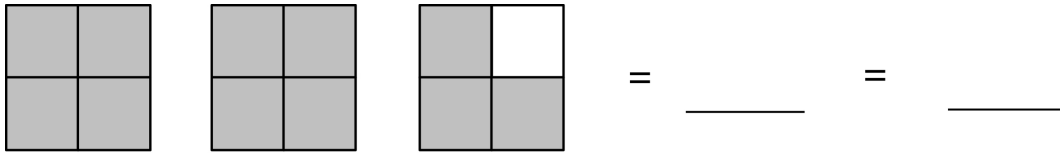
Three horizontal rectangular strips are provided for shading and labeling the fractions $\frac{2}{3}$, $\frac{4}{6}$, and $\frac{8}{12}$.

Explain what your drawing shows about the relationship these fractions.

11. Explain the relationship between eighths and fourths. Draw a picture to aid your explanation.
12. Write this fraction as a mixed number. Then create a picture that represents it as a mixed number:

$$\frac{13}{3}$$

13. Identify the shaded portion of this picture as a mixed number and an improper fraction.



14. Write the following fractions in order from least to greatest:

$$\frac{11}{3} \quad \frac{1}{6} \quad 1\frac{2}{3}$$

15. Write the following fractions in order from greatest to least.

$$1\frac{1}{4} \quad \frac{3}{4} \quad \frac{9}{4}$$

- 16.** Using a ruler and a tool or object with a square (90°) corner, draw and label all of the following:

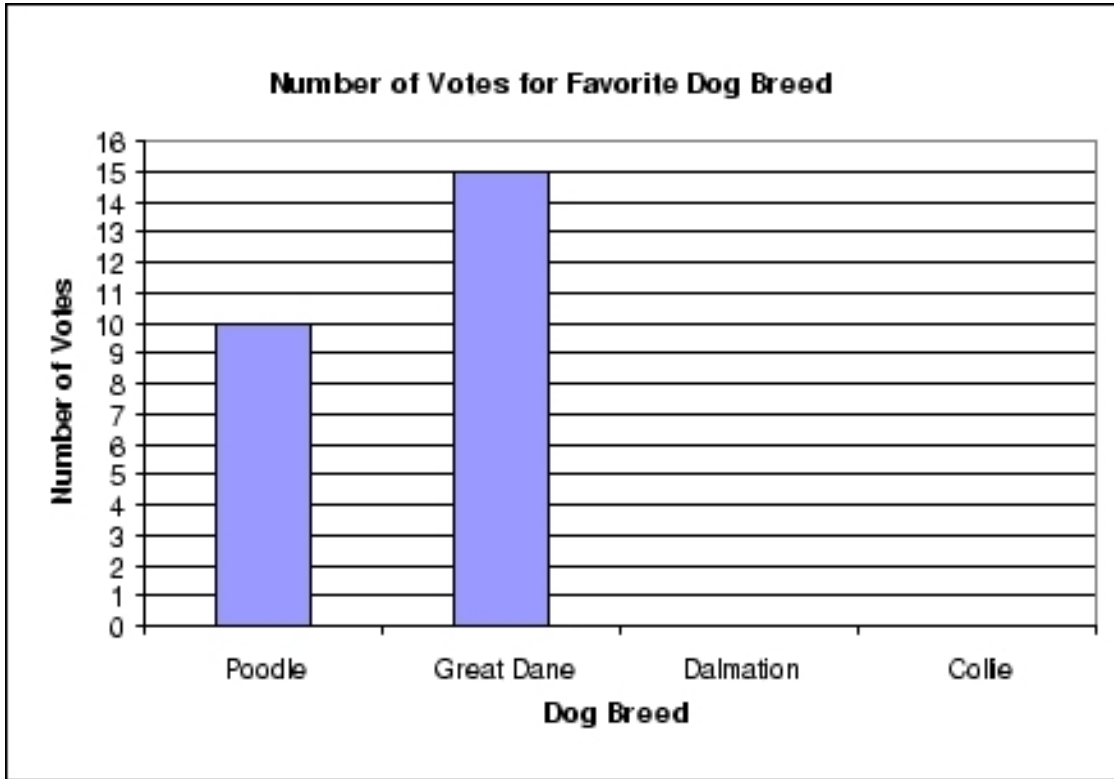
A pair of intersecting lines that are not perpendicular.

A pair of perpendicular lines.

A pair of parallel lines.

17. Use the data in the table to complete the graph.

Votes for Favorite Dog Breeds	
Breed	Number of Votes
Poodle	10
Great Dane	15
Dalmation	12
Collie	8



18. Adam is saving for a pair of skates. The first week he saves \$4, at the end of the second week, he has \$8. After the third week, he has \$12. If the pattern continues how much will Adam have at the end of the 8th week? Show how you would prove this.