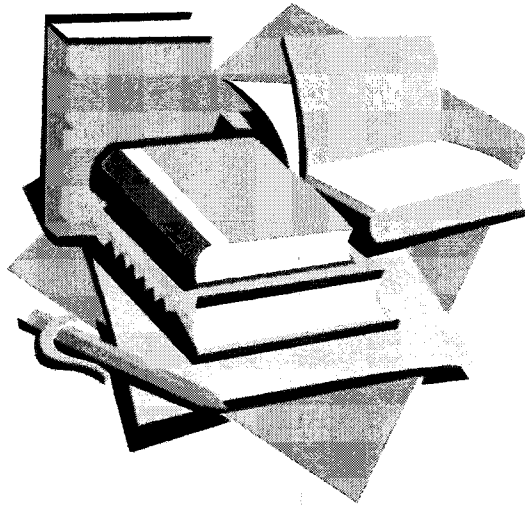


# Mathematics Practice Test Booklet for the PSSA

## Mathematics



Name: \_\_\_\_\_



## TABLE OF CONTENTS

Mathematics Instructions .....	page 2
Section 1.....	page 3
Mathematics Instructions .....	page 10
Section 2.....	page 11
Mathematics Instructions .....	page 17
Section 3.....	page 18

### For Multiple-Choice Questions:

- First solve the problem on scratch paper.
- Choose one of the answers given and record your choice in the answer booklet.
- If none of the choices matches your answer, go back and check your work for possible errors.
- One of the answers provided is the correct response.
- You may not use a calculator for items 1-7. You may use a calculator for all other items on this test.
- You will use a ruler for items 8-9. You will not need a ruler for any other items on this test.

## SECTION 1

You may not use a calculator for items 1-7.

1. Multiply.

$$\begin{array}{r} 86 \\ \times 26 \\ \hline \end{array}$$

- A) 2136  
B) 2226  
C) 2236  
D) 2700

2. Divide.

$$2 \overline{)169}$$

E)  $82\frac{1}{2}$

F)  $83\frac{3}{4}$

G)  $84\frac{1}{2}$

H) 85

3. Chris has \$20 to spend at a flea market. He buys a T-shirt for \$8.95, a CD for \$2.19, and a soft pretzel for \$1.27. (These prices include taxes.) How much money will Chris have left after he pays for his purchases?

- A) \$ 7.59  
B) \$ 8.41  
C) \$ 12.21  
D) \$ 12.41

4. The table shows the number of tickets sold for football games. ROUND each number, then ESTIMATE the total number of tickets sold.

SCHOOL	NUMBER OF TICKETS SOLD
Forest Hill	2,521
Central	3,357
Market Street	982
Ridge Avenue	1,049

- E) 6000  
F) 7000  
G) 8000  
H) 9000

5. During the school year 3216 cans of juice were sold in the cafeteria. There were 508 cans left unsold. How many cans of juice did the cafeteria have at the beginning of the school year?

- A) 2708 cans  
B) 3312 cans  
C) 3714 cans  
D) 3724 cans

6. Tommy bought 4 shirts for \$18.95 each and 3 pairs of pants for \$21.49 each. What was the total Tommy spent?

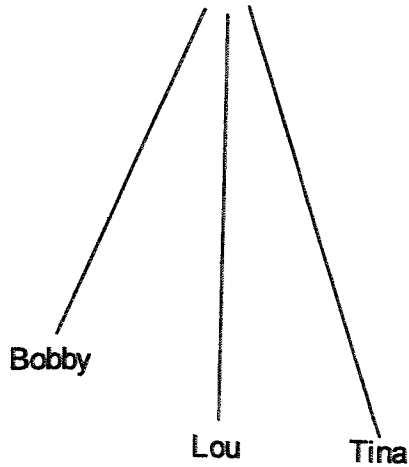
- E) \$ 11.33  
F) \$ 135.97  
G) \$ 139.27  
H) \$ 140.27

GO ON 

7. There were 827 gallons of water in Center City's water tank. The town used 287 gallons of water. ROUND to the nearest 100, then ESTIMATE how much water is left in the tank.
- A) 500 gallons
  - B) 600 gallons
  - C) 700 gallons
  - D) 1000 gallons

You may use a calculator for the rest of the questions on this test.

8. Find the order of winners in the Summithill Jumping Contest. Use a ruler to measure each line. Who came in first, second, and third?



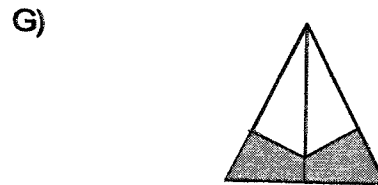
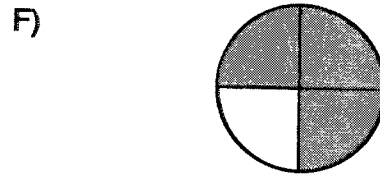
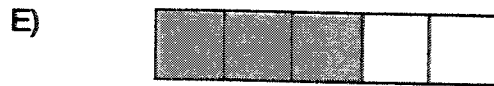
- E) Lou, Bobby, and Tina
- F) Lou, Tina, and Bobby
- G) Bobby, Lou, and Tina
- H) Tina, Lou, and Bobby

9. Use a ruler to measure the perimeter of this rectangle.



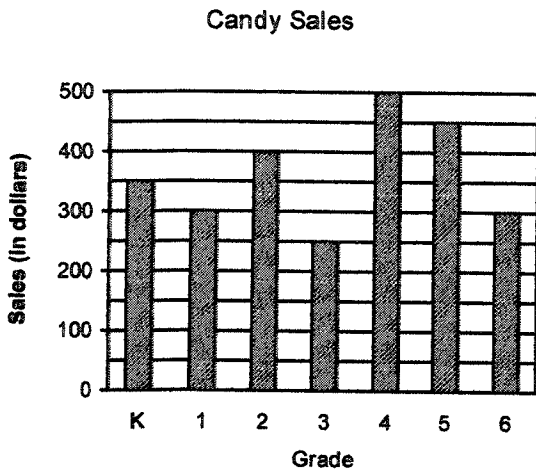
- A) 6 cm
- B) 8 cm
- C) 12 cm
- D) 16 cm

10. Which figure shows  $\frac{3}{5}$  shaded?



GO ON

11. Use the graph below to answer question 11.



Which grade sold half as much candy as fourth grade?

- A) K  
 B) 1  
 C) 3  
 D) 6
12. A chalkboard eraser is most like a \_\_\_\_.

- E) cylinder  
 F) cube  
 G) rectangular prism  
 H) triangular prism

13. Two friends are playing The Mystery Number Game. The clues for the number are:

- 1) 60 is less than the mystery number  
 2) The mystery number is less than 100.

Which statement is true?

- A) 100 is the same as the mystery number.  
 B) The mystery number is greater than 60.  
 C) 52 is greater than the mystery number.  
 D) The mystery number is less than 59.

14. What is the expanded notation for 3,056?

- E)  $3,000 + 5 + 6$   
 F)  $3,000 + 50 + 6$   
 G)  $3,000 + 500 + 6$   
 H)  $30,000 + 50 + 6$

15. There are 26 letter tiles, one for each letter of the alphabet, in a bag. What is the probability of picking the tile C?

A)  $\frac{1}{26}$

B)  $\frac{3}{26}$

C) 1

D) 3

16. Which statement fits the equation?

$$\square \square \triangle = 3$$

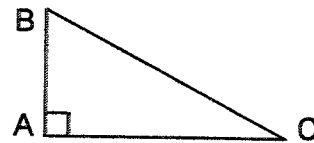
E)  $\square = \triangle$

F)  $\triangle > \square$

G)  $\square > \triangle$

H)  $\square = \triangle$

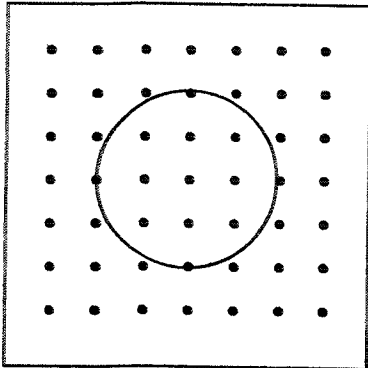
17. What is the hypotenuse in right triangle ABC?



- A) angle A  
 B) angle C  
 C) side AB  
 D) side BC

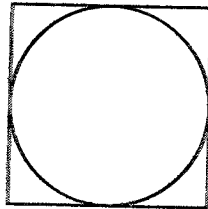
18. Jamahl drew this circle on dot paper. Estimate the area it covers.

1 square unit 



- E) 4 square units  
 F) 6 square units  
 G) 12 square units  
 H) 16 square units
19. When José goes to bed at 9:00 p.m., the temperature is  $3^{\circ}\text{C}$ . When he gets up in the morning he sees that the temperature has dropped  $7^{\circ}$ . What is the temperature when he gets up in the morning?
- A)  $-10^{\circ}\text{C}$   
 B)  $-4^{\circ}\text{C}$   
 C)  $4^{\circ}\text{C}$   
 D)  $10^{\circ}\text{C}$
20. If the diameter of the circle is 10 cm, what is the area of the square?

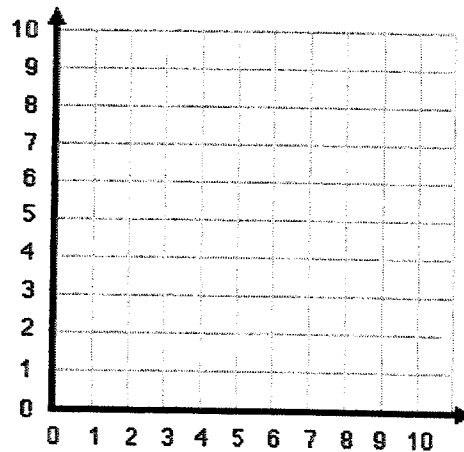
- E)  $20\text{ cm}^2$   
 F)  $25\text{ cm}^2$   
 G)  $40\text{ cm}^2$   
 H)  $100\text{ cm}^2$



21. A quart of water weighs about 2.1 pounds. If you round to the nearest whole number before multiplying, about how much do 50.9 quarts of water weigh?

- A) 100 pounds  
 B) 102 pounds  
 C) 110 pounds  
 D) 120 pounds



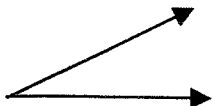

22. Plot these points and connect them in order. What shape is it?  
 (2,1) (8,1) (8,5) (2,1)



- E) square  
 F) triangle  
 G) rectangle  
 H) rhombus

GO ON 

23. Which picture shows a line?

- A) 
- B) 
- C) 
- D) 

24. A number divisible by 2, 3, and 5 will always be divisible by \_\_\_\_\_.

- E) 20
- F) 30
- G) 60
- H) 90



25. A room measures 8 feet by 12 feet. The room needs to be covered with new tiles. The tiles are right triangles.
- The legs of the right triangles are 12 inches long.
  - Each tile costs \$0.39.

How much does it cost to buy tiles to cover the floor?

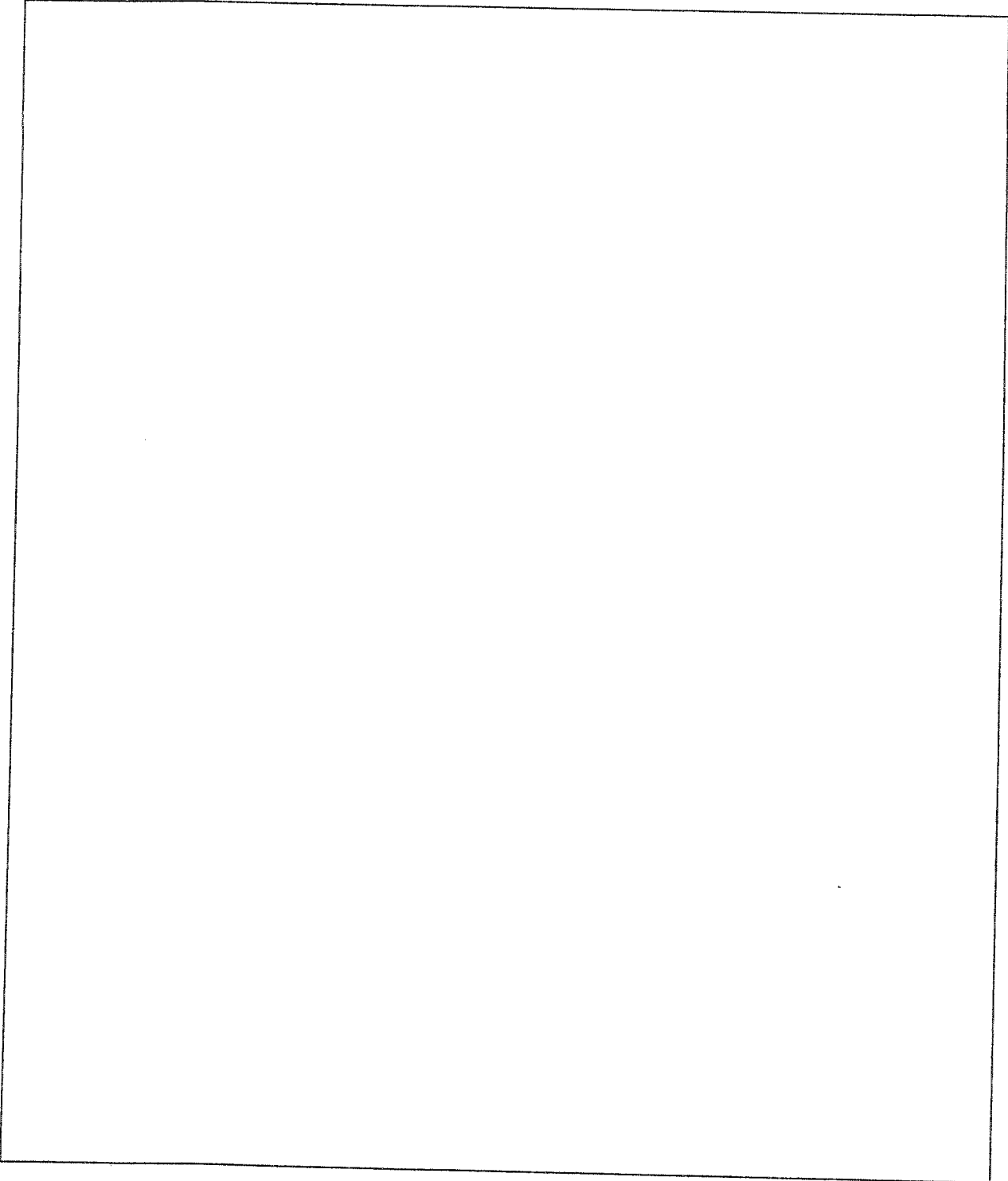
WRITE each step of your math work.  
EXPLAIN why you did each step.  
WRITE your answer in the box below.  
LABEL your answer.

Answer:

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IF YOU NEED MORE SPACE, PLEASE USE PAGE 9

25. Continued. If you need more space, use this page. Please refer to previous page for task explanation.



AFTER YOU HAVE CHECKED YOUR WORK, CLOSE YOUR TEST BOOKLET SO YOUR TEACHER WILL KNOW YOU ARE FINISHED.



**For Multiple-Choice Questions:**

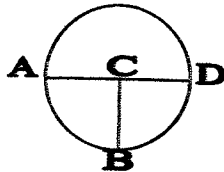
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- You may use a calculator on this test.

## SECTION 2

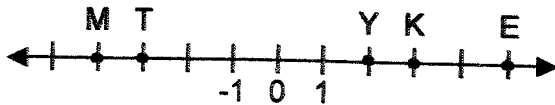
26. What is the standard form for  $80,000,000 + 7,000,000 + 600,000 + 20,000 + 400 + 30 + 2$ ?
- A) 8,762,432  
 B) 80,762,432  
 C) 87,620,432  
 D) 80,760,020,432

27. Rochelle bought 3 packs of gum for \$.79 each and a pen for \$2.49. She paid the clerk with a \$5.00 bill. How much change did she get?
- E) \$.14  
 F) \$1.72  
 G) \$2.51  
 H) \$4.86

28. In circle C, what is BC called?



- A) arc  
 B) chord  
 C) diameter  
 D) radius
29. If the interval on this number line is one unit, what is the location of point T?

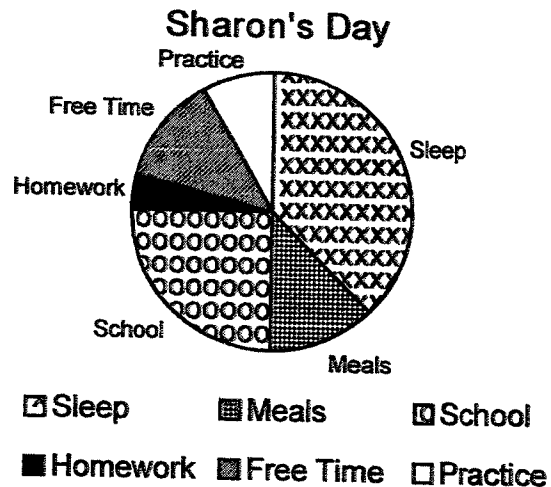


- E) -4  
 F) -3  
 G) 2  
 H) 5

30. The rule of a pattern is to multiply the first number by 3; then, for the next number, to subtract 1. An example of this pattern is:

- A) 1, 3, 9, 12, 11  
 B) 2, 6, 5, 15, 14  
 C) 1, 9, 27, 81, 243  
 D) 1, 3, 2, 6, 18



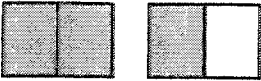

31. According to the circle graph, what does Sharon spend the least time doing each day?



- E) Free Time  
 F) Homework  
 G) Practice  
 H) Meals

GO ON

32. Which figure shows  $1\frac{1}{2}$  shaded?

- A) 
- B) 
- C) 
- D) 

33. Which object is about 9 cm long?

- E) A stamp  
 F) A stepladder  
 G) A grain of sand  
 H) A crayon

34. If all morgs are red and have 3 eyes, and Trug is red with 2 eyes, which statement is true?

- A) Morgs only have 2 eyes.  
 B) Trug is a morg.  
 C) Trug is not a morg.  
 D) Morgs are green and have 2 eyes.

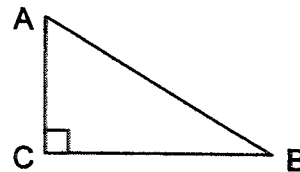
35. After throwing a 6-sided cube with 5 sides colored red, blue, yellow, green, and black, the following results happened:

- Toss #1: blue  
 Toss #2: yellow  
 Toss #3: blue  
 Toss #4: red  
 Toss #5: green  
 Toss #6: blue  
 Toss #7: black

What color is most likely to be on the sixth side?

- E) Yellow  
 F) Red  
 G) White  
 H) Blue

36. This is a right triangle. Which angle is the right angle?



- A)  $\angle ABC$   
 B)  $\angle BAC$   
 C)  $\angle ACB$   
 D) They are all right angles

37. Which list contains all prime numbers?

- E) 1, 7, 13, 29  
 F) 2, 13, 27, 41  
 G) 5, 11, 29, 31  
 H) 6, 18, 21, 50

GO ON 

38. The Cross Country Team runs 5 miles every day. After 3 weeks the mean times of each runner are listed in a chart. Which statement is correct? (Remember: the smallest time shows the fastest runner.)

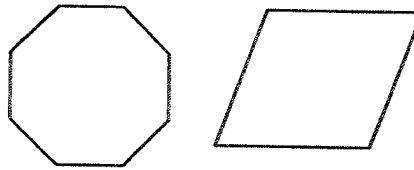
Cross Country Team	
Runner	Mean time
Sam	31.50
Dave	29.95
Danielle	30.75
Kristin	34.75
Brian	34.50
Julie	33.25

- A) Kristin and Brian are the fastest runners.  
 B) Sam and Julie are the fastest runners.  
 C) Julie and Kristin are the fastest runners.  
 D) Dave and Danielle are the fastest runners.

39. Which fraction is the same as  $\frac{3}{4}$ ?

- E)  $\frac{4}{8}$   
 F)  $\frac{5}{8}$   
 G)  $\frac{6}{8}$   
 H)  $\frac{7}{8}$

40. What do these two shapes have in common?



- A) They both have perpendicular lines.  
 B) They both have opposite sides parallel.  
 C) They both have all angles congruent.  
 D) They are congruent.
41. Sue must pack cans to deliver to a food shelter. She has 114 cans. Small boxes hold 15 cans, medium boxes hold 21 cans and large boxes hold 27 cans. How many boxes of each size will she need to pack all the cans. She must have full boxes.

	Small Box (15 cans)	Medium Box (21 cans)	Large Box (27 cans)
E)	7	6	0
F)	0	6	0
G)	1	0	4
H)	3	2	1

42. Amy rolls a cube with the numbers 0, 1, 2, 7, 8 and 9 on it. Curtis rolls a cube with the numbers 1, 2, 3, 4, 6 and 8 on it. The player who rolls a number less than 4 is the winner. Both players roll their cube. Which statement is true?
- A) Curtis has a higher probability of winning.  
 B) Amy has a higher probability of winning.  
 C) Amy and Curtis have the same probability of winning.  
 D) There is not enough information given to answer the question.

GO ON

43. Ann is 12 years old. She is twice as old as Ben. Kip is half as old as Ben. How old are Ben and Kip?

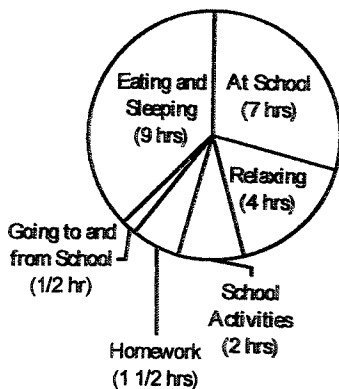
E) Ben is 12 and Kip is 6.  
 F) Ben is 6 and Kip is 3.  
 G) Ben is 24 and Kip is 12.  
 H) Ben is 6 and Kip is 12.

44. Which quantity does not have the same value as the other three?

A) 3 less than 18  
 B) 9 less than 24  
 C) 8 greater than 7  
 D) 11 greater than 6

45. Patty's typical school day is shown on the circle graph below. One night Patty has no homework or school activities. What is the maximum amount of time she can spend relaxing?

Patty's Typical School Day



E)  $3\frac{1}{2}$  hrs  
 F) 4 hrs  
 G) 6 hrs  
 H)  $7\frac{1}{2}$  hrs

46. Which expression best describes this pattern?

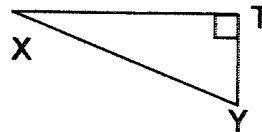
11, 22, 33, 44, 55, □

A)  $n + 11$   
 B)  $n \times 2$   
 C)  $n \square 11$   
 D)  $11 \square n$

47. A regular hexagon is folded in half so the sides match. What is the new shape?

E) rectangle  
 F) parallelogram  
 G) triangle  
 H) trapezoid

48. The triangle shown is a right triangle. The right angle is T. What kind of angles are X and Y?



A) right  
 B) obtuse  
 C) acute  
 D) straight

49. The least common multiple of 8 and 12 is \_\_\_\_\_.

E) 8  
 F) 12  
 G) 20  
 H) 24



50. Julie mows lawns.  
Each day the lawnmower uses 0.5 pints of oil and 1.5 gallons of gas.

- A) Julie has 3 pints of oil and 12 gallons of gas.  
How many days can she mow lawns without buying more supplies?

SHOW your math work and EXPLAIN why you did each step.

OR

USE a chart to show how you got your answer.

WRITE your answer in the box below.  
LABEL your answer.

Answer:  
\_\_\_\_\_

GO TO THE NEXT PAGE TO FINISH QUESTION 50.

GO ON 

50. Continued. Please refer to previous page for task explanation.

- B) Julie has 6 pints of oil. How much gas does she need so that the lawnmower runs out of oil and gas on the same day?

SHOW your math work and EXPLAIN why you did each step.

OR

USE a chart to show how you got your answer.

WRITE your answer in the box below.  
LABEL your answer.

Answer:  
\_\_\_\_\_

AFTER YOU HAVE CHECKED YOUR WORK, CLOSE YOUR TEST BOOKLET SO  
YOUR TEACHER WILL KNOW YOU ARE FINISHED.

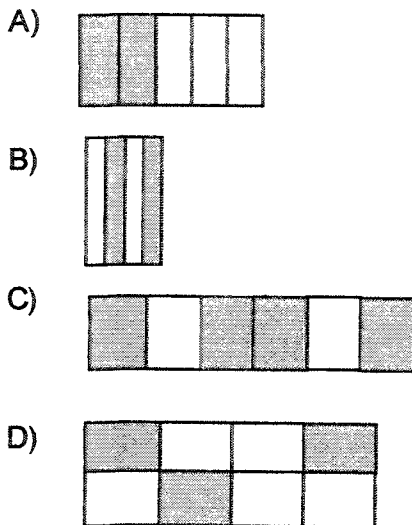
STOP

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## SECTION 3

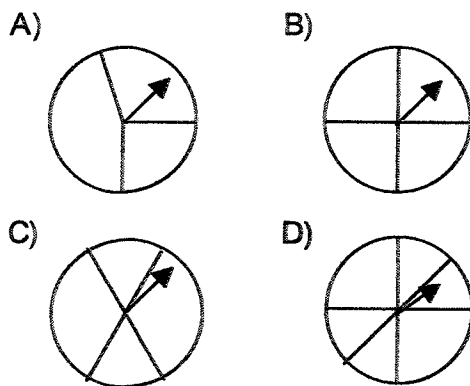
51. Which figure shows  $\frac{2}{3}$  shaded?



52. Don had 479 marbles. Then his aunt gave him 237 more. Don gave 136 marbles to his sister. For his birthday Don received 265 more marbles. How many marbles does Don have now?

- E) 159 marbles  
 F) 315 marbles  
 G) 845 marbles  
 H) 1117 marbles

53. Which spinner allows equal chances?



54. Which sequence of numbers fits the rule:

multiply by 2, add 1

- E) 6, 12, 24, 48, □  
 F) 3, 9, 27, 81, □  
 G) 3, 7, 15, 31, □  
 H) 3, 8, 18, 38, □

55. Annette is taller than Pedro.  
 Pedro is taller than Carl.  
 Dan is shorter than Pedro.  
 Which statement is true?

- A) Carl is taller than Dan.  
 B) Carl is shorter than Dan.  
 C) Annette is shorter than Dan.  
 D) Annette is taller than Dan, but you cannot determine if Carl or Dan is taller.

56. Britney jogs 4 times around a track. It takes her 3 minutes to run the first lap,  $3\frac{1}{2}$  minutes to run the second lap, 5 minutes to run the third lap, and 8 minutes to run the last lap. Which statement best describes her running?

- E) She runs faster on each lap.  
 F) It takes her longer to run each lap.  
 G) It takes her 5 minutes longer to run the 3<sup>rd</sup> lap than the 1<sup>st</sup> lap.  
 H) It will probably take her 8 minutes to run a 5<sup>th</sup> lap.

GO ON 

57. Trapezoids, rectangles, and parallelograms are \_\_\_\_\_.

- A) pentagons
- B) octagons
- C) quadrilaterals
- D) hexagons

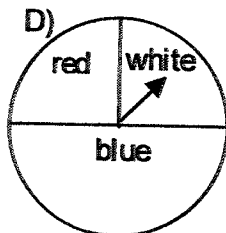
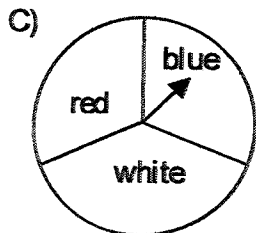
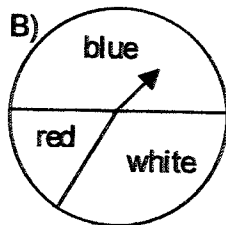
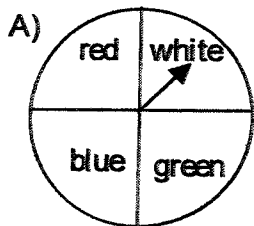
58. A board 2 feet long is cut into 8 pieces of equal length. How long is each piece?

- E)  $\frac{1}{4}$  inch
- F) 3 inches
- G) 4 inches
- H) 6 inches

59. Jay performed 3 experiments with a spinner. He spun the spinner 20 times for each experiment. His results are shown in the table.

	BLUE	WHITE	RED
Experiment #1			
Experiment #2			
Experiment #3			

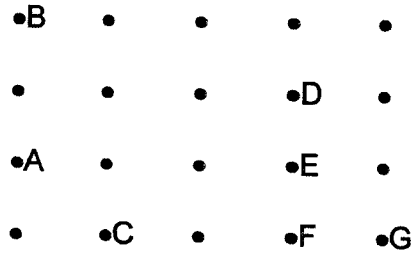
Which spinner is most likely to be the one he used?



60. Rename  $\frac{8}{3}$  as a whole or mixed number.

- E) 2
- F)  $2\frac{1}{3}$
- G)  $2\frac{2}{3}$
- H) 3

61. Which points can be connected to make a right triangle?



- A) ABC
- B) DBC
- C) DEF
- D) EFC

62. Which of the following values would make this statement true?

$$4 \times \square + \triangle = 19$$

- E)  $\square = 4$        $\triangle = 3$
- F)  $\square = 7$        $\triangle = 8$
- G)  $\square = 10$       $\triangle = 9$
- H)  $\square = 4$        $\triangle = 2$

GO ON

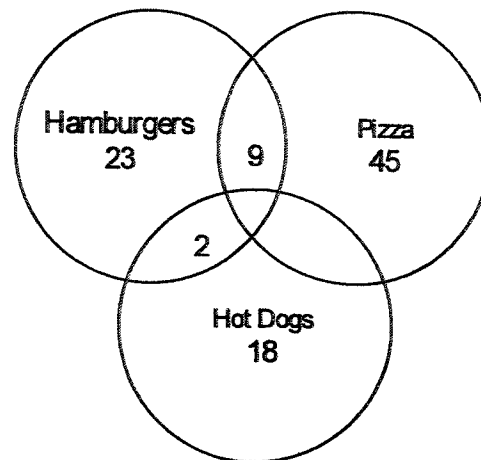
63. Janet wants to find the total weight of the recycled cans she had collected.

The bags of cans weigh  $24\frac{3}{4}$  pounds,

$21\frac{7}{8}$  pounds, and  $19\frac{1}{2}$  pounds. What is the total weight of the bags?

- A) 64 pounds
- B)  $64\frac{1}{8}$  pounds
- C)  $64\frac{11}{14}$  pounds
- D)  $66\frac{1}{8}$  pounds
64. What is the best description of a square?
- E) A polygon with opposite sides parallel.
- F) A polygon with four right angles.
- G) A parallelogram with four congruent sides.
- H) A rectangle with four congruent sides.

65. The results of a food survey are shown in the Venn diagram. According to the diagram which 2 statements are true?



1. The least number of students like pizza
2. Fewer students like hamburgers than hot dogs
3. Hot dogs are the least favorite food
4. No one said they like both pizza and hot dogs.

- A) 1 and 2
- B) 1 and 3
- C) 2 and 4
- D) 3 and 4

66. Bob has 32 cards, and Christina has double that. Kim has 18 cards less than Christina. Sally has 31 cards more than Bob.

Who has the most cards?

- E) Bob
- F) Christina
- G) Kim
- H) Sally

67. There are 100 gumballs in a machine:  
 30 red  
 25 yellow  
 20 green  
 15 white  
 10 blue

What is the probability of getting a green gumball from the machine?

- A)  $\frac{1}{10}$   
 B)  $\frac{3}{20}$   
 C)  $\frac{1}{5}$   
 D)  $\frac{1}{4}$

68. The entrance to a building is 6 feet 8 inches high. A man is 5 feet 9 inches tall. His hat adds 5 inches to his total height. How much space is there between the top of his hat and the top of the entrance?

- E) 6 inches  
 F) 9 inches  
 G) 1 foot 1 inch  
 H) 6 feet 2 inches

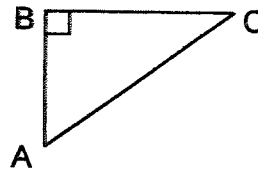
69. Which comparison is correct?

- A)  $6\frac{3}{4} > 7\frac{1}{2} > 7\frac{3}{4}$   
 B)  $7\frac{3}{4} > 7\frac{1}{2} > 7\frac{1}{4}$   
 C)  $8\frac{1}{2} > 8\frac{1}{4} > 8\frac{3}{4}$   
 D)  $9\frac{1}{2} > 9\frac{3}{4} > 9\frac{1}{4}$

70. Which statement is true?

- E) All squares are rectangles.  
 F) All rectangles are squares.  
 G) A hexagon is a quadrilateral.  
 H) A pentagon is a rhombus.

71. Identify the legs of the right triangle.



- A)  $\overline{AB}$  and  $\overline{BC}$   
 B)  $\overline{AB}$  and  $\overline{AC}$   
 C)  $\angle A$  and  $\angle B$   
 D)  $\angle A$  and  $\angle C$

72. Which expression shows 48 as a product of its prime factors?

- E)  $6 \times 8$   
 F)  $2 \times 2 \times 2 \times 2 \times 3$   
 G)  $2 \times 4 \times 6$   
 H)  $7 + 11 + 13 + 17$



73.

A) LIST one set of five whole numbers less than 100 so that all the following are true:

Mean = 85

Median = 84

Mode = 82

WRITE each step of your math work.  
EXPLAIN why you did each step.  
WRITE your 5 numbers in the box below.

Answers:

\_\_\_\_\_

B) What is the range of your numbers? \_\_\_\_\_

WRITE each step of your math work.  
EXPLAIN why you did each step.

AFTER YOU HAVE CHECKED YOUR WORK, CLOSE YOUR TEST BOOKLET SO YOUR  
TEACHER WILL KNOW YOU ARE FINISHED.

STOP

