

★ 6PTRWM

Alaska

Comprehensive System of Student Assessment

Standards Based Assessments

Grade 6

**Reading ★ Writing ★ Mathematics
Practice Test Book**



Spring 2012

Alaska Department of Education & Early Development

Name:

MATHEMATICS

You may use the Mathematics Reference Sheet any time during the test.

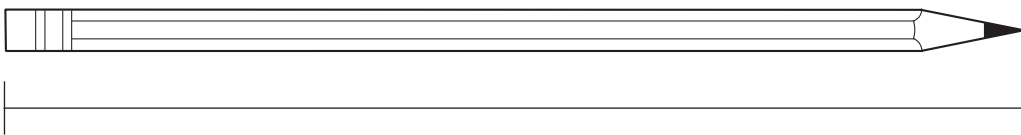
1. On Sunday, Griffin's Restaurant sold 14 gallons of coffee. Which is the same as 14 gallons?

A 56 cups
B 56 gallons
C 56 pints
D 56 quarts

2. Frank ate a candy bar that weighed 6.775 ounces. Joy ate a candy bar that weighed 9.855 ounces. To the nearest ounce, about how much more did Joy's candy bar weigh?

A 2 ounces
B 3 ounces
C 4 ounces
D 5 ounces

3. Jocelyn sharpened her pencil and measured its new length as shown below.



What is the length of Jocelyn's sharpened pencil to the nearest millimeter?

A 120 millimeters
B 125 millimeters
C 130 millimeters
D 135 millimeters

MATHEMATICS

4. To win a math game, Erin needed to find the missing value, n , in the function table below.

In (x)	Out (y)
n	4
45	5
54	6
63	7
72	8

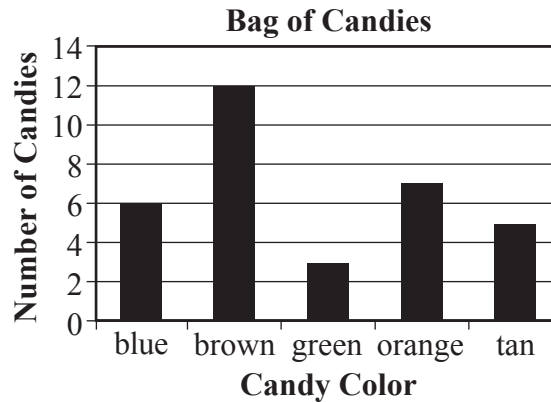
What is the value of n ?

- A 9
B 27
C 36
D 44
-
5. David is building birdhouses. He has a box containing 621 nails. He uses 31 nails to build each birdhouse. Which estimate is closest to the total number of birdhouses David can build using 621 nails?
- A 18 birdhouses
B 20 birdhouses
C 21 birdhouses
D 22 birdhouses

MATHEMATICS

6. Lee is explaining multiplication to her younger brother. Which statement could Lee make that is true?
- A Multiplying 3 by 4 is just like $3 + 3 + 3 + 3$.
 - B Multiplying 3 by 4 is just like $4 + 3 + 3 + 3$.
 - C Multiplying 3 by 4 is just like $4 + 4 + 4 + 4$.
 - D Multiplying 3 by 4 is just like $3 + 3 + 3 + 3 + 3$.
-

7. Pablo had a bag of different-colored candies. He made the graph below to show the numbers of candies that were in the bag.



Based on Pablo's graph, which statement is true?

- A There were 12 tan candies in the bag.
- B There were 7 orange candies in the bag.
- C Most of the candies in the bag were green.
- D There were more blue candies than any other color.

MATHEMATICS

8. Linda used the rule shown below to find the distance traveled by a school bus.

$$\text{distance} = 30 \text{ mph} \times \text{time}$$

Which table represents the distance traveled by the bus using this rule?

A **School Bus Time/Distance**

Time (hours)	Distance (miles)
1	30
2	60
3	90
4	120

B **School Bus Time/Distance**

Time (hours)	Distance (miles)
1	120
2	90
3	60
4	30

C **School Bus Time/Distance**

Time (hours)	Distance (miles)
1	30
2	15
3	10
4	7.5

D **School Bus Time/Distance**

Time (hours)	Distance (miles)
1	30
2	31
3	32
4	33

-
9. Which number sentence shows the identity property of multiplication?

- A $16 \times 0 = 0$
- B $16 \times 1 = 16$
- C $16 \times 12 = 12 \times 16$
- D $(16 \times 4) \times 3 = 16 \times (4 \times 3)$

MATHEMATICS

10. Alan received a package shaped like a rectangular prism. How many vertices does the package have?

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

11. Tiffany decorated $\frac{1}{2}$ of a cake. Sophie decorated $\frac{1}{5}$ of the same cake. Which expression is another way to write $\frac{1}{2} + \frac{1}{5}$ to find the fraction of the cake that is decorated?

- A $\frac{6}{7} + \frac{5}{7}$
- B $\frac{1}{7} + \frac{3}{7}$
- C $\frac{1}{10} + \frac{1}{10}$
- D $\frac{5}{10} + \frac{2}{10}$

MATHEMATICS

12. Susan began playing a video game at 11:27 AM. She stopped playing at 12:03 PM. How long did she play her video game?
- A 24 minutes
 - B 33 minutes
 - C 36 minutes
 - D 1 hour 24 minutes
-
13. A store had 7,162 bumper stickers available to sell last year. There were 1,808 bumper stickers remaining unsold at the end of the year. Which estimate is **closest** to the total number of bumper stickers the company sold last year?
- A 5,000 bumper stickers
 - B 6,000 bumper stickers
 - C 7,000 bumper stickers
 - D 9,000 bumper stickers

MATHEMATICS

14. As part of his job as a salesman, Mr. Armstrong travels from his office in Anchorage to other cities. The number of miles he travels from his office to each city is shown in the table below.

Distance from Anchorage

City	Number of Miles
Fairbanks	360
Haines	782
Homer	225
Kenai	158
Tok	325

What is the median number of miles Mr. Armstrong travels from his office?

- A 225
- B 325
- C 370
- D 624

-
15. Cynthia bought a blouse for \$29.49 and a pair of socks for \$3.99. How much change should she have received from two \$20 dollar bills?

- A \$ 6.52
- B \$ 7.52
- C \$33.48
- D \$53.48

Turn to page 24 in your answer booklet to complete question 16.

MATHEMATICS

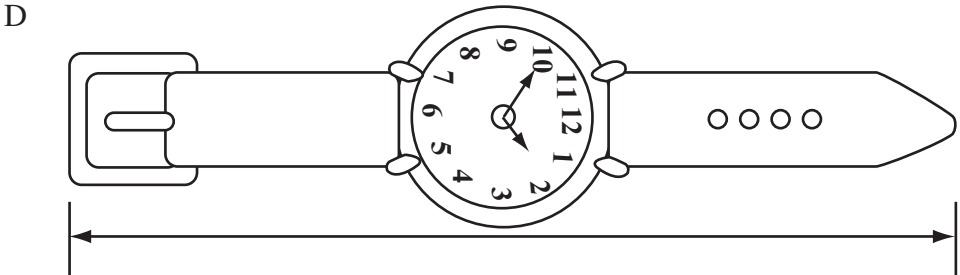
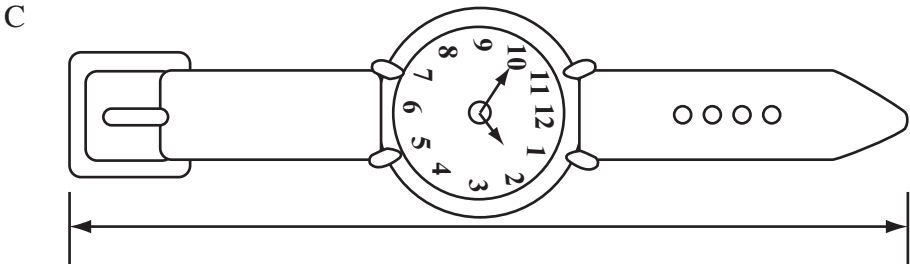
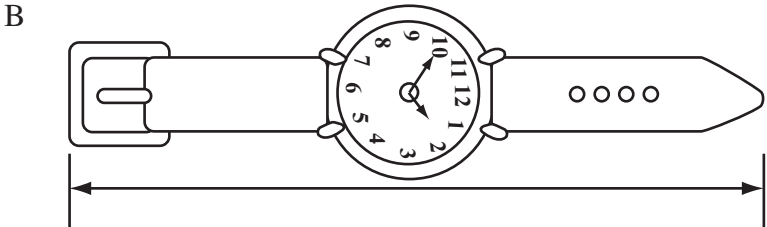
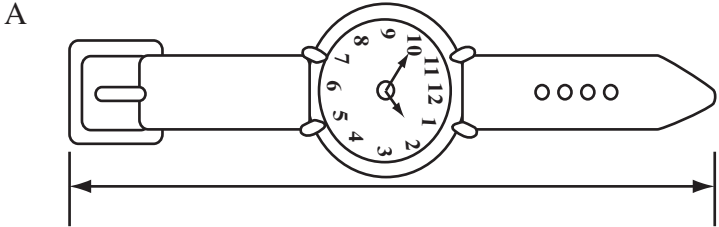
17. The population of Albertville is 24,735. How is the number 24,735 written in expanded form?
- A $(24 \times 10,000) + (7 \times 100) + (3 \times 10) + (5 \times 1)$
 - B $(2 \times 10,000) + (4 \times 100) + (7 \times 10) + (3 \times 1) + 5$
 - C $(2 \times 10,000) + (4 \times 1,000) + (7 \times 100) + (35 \times 10)$
 - D $(2 \times 10,000) + (4 \times 1,000) + (7 \times 100) + (3 \times 10) + (5 \times 1)$
-

18. Mark's class went cross-country skiing. The class left school at 8:30 AM. The bus trip was 40 minutes each way. The class stayed at the ski area for $4\frac{1}{2}$ hours. What time did Mark's class arrive back at school?
- A 1:30 PM
 - B 2:00 PM
 - C 2:20 PM
 - D 2:30 PM
-

19. At a restaurant, $\frac{5}{8}$ of the customers who ordered dessert chose apple pie, and $\frac{1}{3}$ chose cherry pie. All the others who ordered dessert chose ice cream. What fraction of the customers who ordered dessert chose ice cream?
- A $\frac{1}{24}$
 - B $\frac{2}{8}$
 - C $\frac{5}{11}$
 - D $\frac{4}{5}$

MATHEMATICS

20. Which watch is $4\frac{3}{8}$ inches long?



MATHEMATICS

21. All of the pizzas for a class party were cut into eighths. The fraction $\frac{19}{8}$ represents the amount of pizza left over after the party. Which mixed number is equivalent to $\frac{19}{8}$?

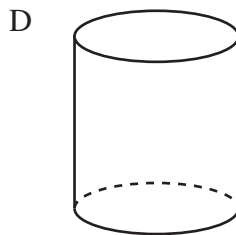
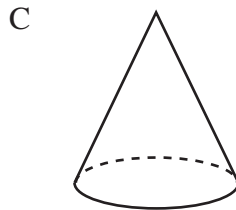
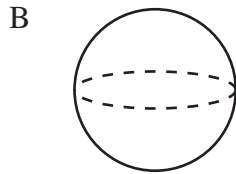
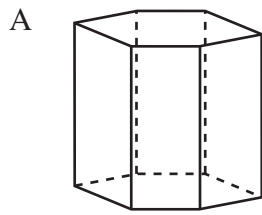
- A $1\frac{9}{8}$
 - B $2\frac{3}{8}$
 - C $2\frac{8}{3}$
 - D $8\frac{2}{3}$
-

22. Cyril wrote the equation $15 \cdot t = 60$ to calculate the price of one concert ticket, t . What is the value of t ?

- A \$ 4
- B \$45
- C \$75
- D \$90

MATHEMATICS

23. Sarah keeps her pencils in a container that is in the shape of a cylinder. Which shows a cylinder?



MATHEMATICS

24. The rule below determines the number of dollars, d , a customer needs to spend to receive different numbers of ride tickets, t , at a fair.

$$d \times 4 = t$$

Which function table correctly follows the rule?

A

Ride Tickets	
Number of Dollars (d)	Number of Tickets (t)
8	2
12	3
16	4
20	5

B

Ride Tickets	
Number of Dollars (d)	Number of Tickets (t)
8	12
12	16
16	20
20	24

C

Ride Tickets	
Number of Dollars (d)	Number of Tickets (t)
8	4
12	8
16	12
20	16

D

Ride Tickets	
Number of Dollars (d)	Number of Tickets (t)
8	32
12	48
16	64
20	80

-
25. Darla cut a shape out of paper. Which could she do to be sure that her shape is symmetrical?

- A fold the shape in half so that the halves match
- B cut the shape into 4 parts so each part is equal in area
- C trace the shape onto another piece of paper and cut it out
- D make another shape with the same angles but with different side lengths

MATHEMATICS

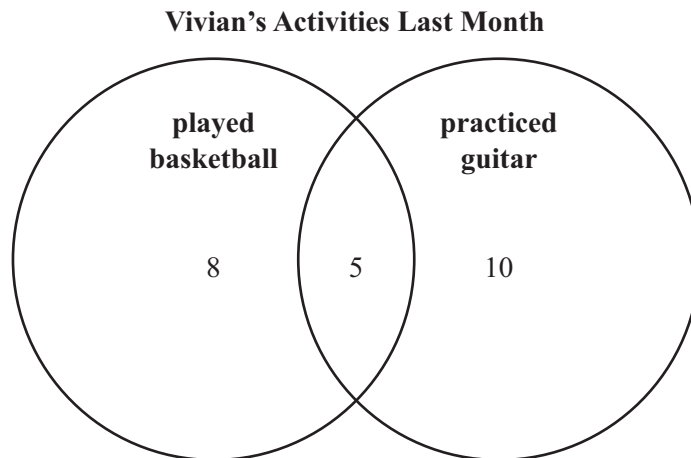
26. The numbers painted on the doors of a hallway follow the pattern shown below.

6, 12, 18, 24, . . .

What is the next number in the pattern?

- A 28
 - B 30
 - C 32
 - D 36
-

27. The Venn diagram below shows the number of days last month Vivian played basketball and the number of days she practiced her guitar.



How many days last month did Vivian only play basketball?

- A 5 days
- B 8 days
- C 13 days
- D 23 days

MATHEMATICS

28. The list below shows the number of points Martha scored in each of the nine basketball games she played.

11, 6, 15, 3, 9, 8, 10, 8, 6

What is the range of the number of points Martha scored?

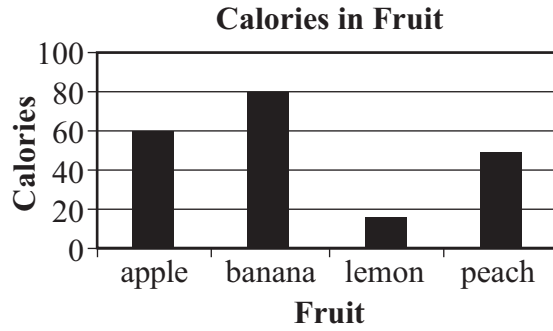
- A 3
 - B 9
 - C 12
 - D 15
-

29. Derek solved the equation $48 - d = 6$ to find out how many dollars, d , he spent. How many dollars did Derek spend?

- A \$ 8
- B \$ 42
- C \$ 54
- D \$288

MATHEMATICS

30. The bar graph below shows the average number of calories in different kinds of fruit.



Which table represents the data in the bar graph?

A **Calories in Fruit**

Fruit	Calories
apple	60
banana	15
lemon	80
peach	50

B **Calories in Fruit**

Fruit	Calories
apple	60
banana	80
lemon	15
peach	50

C **Calories in Fruit**

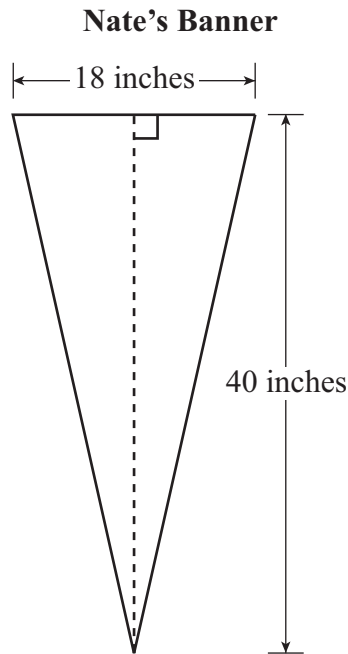
Fruit	Calories
apple	30
banana	40
lemon	7
peach	25

D **Calories in Fruit**

Fruit	Calories
apple	60
banana	100
lemon	5
peach	50

MATHEMATICS

31. A banner hanging on Nate's bedroom wall has the measurements shown below.

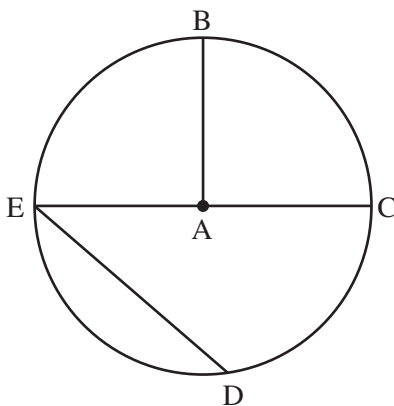


What is the area of Nate's banner?

- A 29 square inches
 - B 360 square inches
 - C 720 square inches
 - D 1,440 square inches
-
32. A printing company packed 925 books into 25 boxes. Each box contained the same number of books. What was the number of books packed in each box?
- A 35 books
 - B 36 books
 - C 37 books
 - D 45 books

MATHEMATICS

33. Hallie drew the figure below.



Point A is the center of the circle. Which term describes \overline{EC} ?

- A circumference
 - B diameter
 - C radius
 - D semicircle
-
34. Jonah is ordering a T-shirt. Jonah can choose among 4 different colors and 3 different logos. How many possible combinations of 1 color and 1 logo can Jonah choose from?
- A 7
 - B 9
 - C 12
 - D 24

MATHEMATICS

35. To make lemonade, Bart poured 3 gallons of water into a large container. He added 1 gallon of lemon juice. How many quarts of liquid did Bart have in the large container?
- A 1 quart
 - B 4 quarts
 - C 8 quarts
 - D 16 quarts
-
36. Tristan started mowing the lawn at 3:30. It took him 45 minutes to finish mowing. What time did he finish?
- A 3:45
 - B 4:00
 - C 4:15
 - D 4:30

MATHEMATICS

37. Darnell recorded the number of pitches thrown each inning during the first 4 innings of a baseball game.

Pitches Thrown

Inning	Number of Pitches
1	8
2	16
3	24
4	32

Which rule could describe the relationship between the inning and the number of pitches thrown that inning?

- A 8 multiplied by inning = number of pitches
 - B 8 divided by inning = number of pitches
 - C 16 multiplied by inning = number of pitches
 - D 16 divided by inning = number of pitches
-

38. Dustin used flour to bake bread. He used $\frac{2}{3}$ of a whole bag of flour the first day. The second day he used $\frac{1}{6}$ of the whole bag of flour. What total fraction of the whole bag of flour did he use during the two days?

- A $\frac{1}{9}$
- B $\frac{1}{3}$
- C $\frac{1}{2}$
- D $\frac{5}{6}$

MATHEMATICS

39. Ali built a model of a truck. The model weighs 32 ounces. Which weight is equal to the weight of the model Ali built?

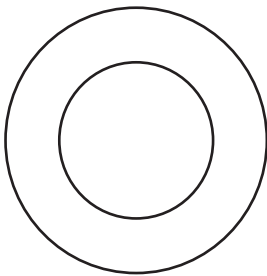
- A $\frac{1}{2}$ pound
 - B 1 pound
 - C 2 pounds
 - D 16 pounds
-

40. Kurt drew the shape shown below on the front of his journal.

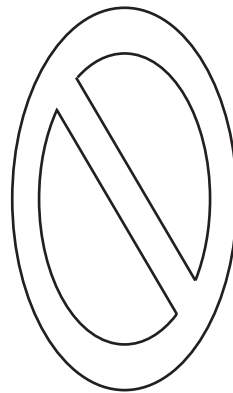


Which shape is congruent to the shape Kurt drew on the front of his journal?

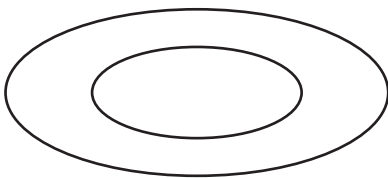
A



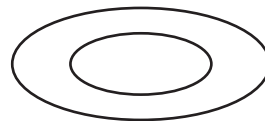
B



C



D



MATHEMATICS

41. A stadium holds 14,746 people. A game at the stadium was attended by 9,852 people. How many **more** people could have attended the game?
- A 4,894
 - B 4,914
 - C 5,114
 - D 5,194
-

42. Mr. Connor is ordering packages of markers. The table below shows the number of packages, p , he could order and the number of markers, m , he would receive.

Packages of Markers

Number of Packages (p)	Number of Markers (m)
3	24
5	40
6	48
7	56
9	?

The pattern continues. What is the number of markers Mr. Connor would receive by ordering 9 packages?

- A 65 markers
- B 72 markers
- C 104 markers
- D 112 markers

Turn to page 26 in your answer booklet to complete question 43.

MATHEMATICS

44. A pizza restaurant offers 3 choices of crust and 5 choices of topping as shown in the table below.

Pizza Choices

Crust	Topping
thin	pepperoni
medium	Canadian bacon
thick	sausage
	vegetables
	cheese

How many different kinds of pizza can be ordered if each kind uses 1 crust and 1 topping?

- A 8
 - B 9
 - C 15
 - D 25
-

45. Mr. Chang bought 24 calculators for his class. Each calculator cost \$8.67. What was the total cost of the calculators?

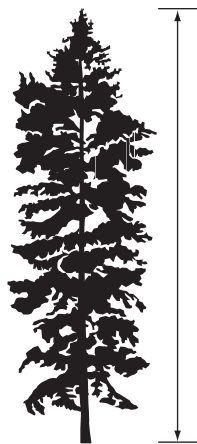
- A \$ 20.80
- B \$108.08
- C \$203.91
- D \$208.08

MATHEMATICS

46. A crew painted stripes down the middle of a highway. Each stripe is 1 yard long. How many feet are in 1 yard?

- A 1 foot
 - B 3 feet
 - C 12 feet
 - D 24 feet
-

47. The Sitka is the world's largest type of spruce tree.



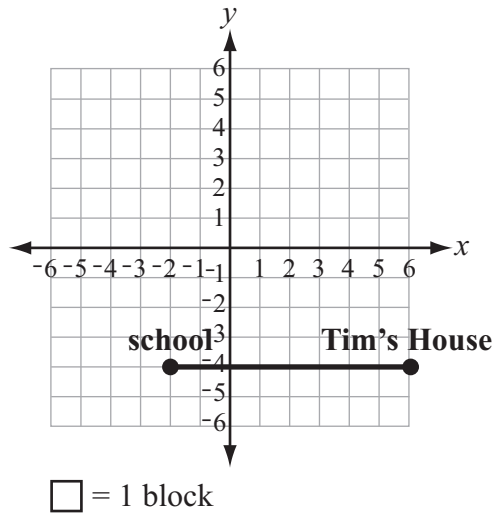
scale: $\frac{1}{8}$ inch = 9 feet

What is the actual height of the tree in feet?

- A 144 feet
- B 146 feet
- C 162 feet
- D 216 feet

MATHEMATICS

48. Tim walks straight to school each day using the route shown on the grid below.



How many blocks does Tim walk on the way to school?

- A 2
- B 6
- C 8
- D 16

-
49. Liam wrote the list of numbers below based on a pattern.

160, 40, 80, 20, 40, 10, 20, ...

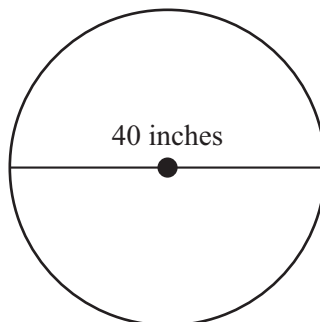
What are the next two numbers in the pattern?

- A 5, 10
- B 30, 40
- C 10, 5
- D 40, 30

MATHEMATICS

50. The figure below is a drawing of a circular window in a building.

Circular Window



How long is the radius in inches?

- A 10
 - B 20
 - C 40
 - D 80
-

51. The table below lists the populations of three cities.

City Populations

City	Population
Chamberlain	570,833
Maple Creek	262,015
Swan Valley	156,297

What is the sum of the populations of these three cities, rounded to the nearest ten thousand?

- A 980,000
- B 989,145
- C 989,150
- D 990,000

MATHEMATICS

52. Gina finished 3 meters ahead of her cousin in a kayak race. Which number of millimeter(s) is equal to 3 meters?

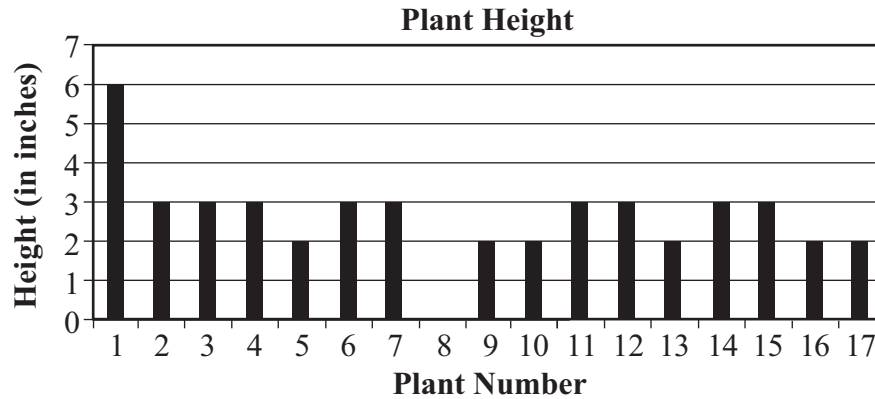
- A 0.003 millimeter
 - B 300 millimeters
 - C 3,000 millimeters
 - D 3,000,000 millimeters
-

53. Larry is buying pencils and pens to put into school-supply bags. The pencils come in packages of 15. The pens come in packages of 6. He wants to put 1 pencil and 1 pen into each bag without having any left over. The least common multiple of 15 and 6 is the fewest bags Larry can make. What is the least common multiple of 15 and 6?

- A 3
- B 21
- C 30
- D 90

MATHEMATICS

54. Stephen planted seeds for a science experiment. Several weeks after he planted the seeds, Stephen made the bar graph below to show how high the plants had grown.



Which conclusion can be drawn from Stephen's bar graph?

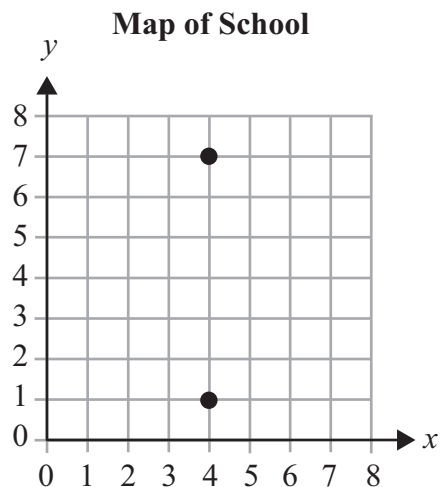
- A More than half of the plants are at least 5 inches tall.
 - B More than half of the plants are exactly 3 inches tall.
 - C More than half of the plants are exactly 2 inches tall.
 - D All of the seeds planted have grown.
-
55. A bush pilot was asked to fly the perimeter of a state park to look for black bears. The state park is a rectangular shape 20 miles wide and 32 miles long. What is the perimeter of the state park?
- A 52 miles
 - B 104 miles
 - C 320 miles
 - D 640 miles

MATHEMATICS

56. Emily sold lemonade. Each serving of lemonade was 8 fluid ounces. Which measurement is equivalent to each serving of lemonade Emily sold?
- A 1 cup
 - B 1 gallon
 - C 1 pint
 - D 1 quart
-
57. The dinner special at a restaurant includes a choice of 3 salads, 3 main dishes, and 2 desserts. How many different combinations of 1 salad, 1 main dish, and 1 dessert are possible?
- A 3
 - B 8
 - C 12
 - D 18

MATHEMATICS

58. On the map of a school shown below, the school office is located at point $(4, 1)$, and Keegan's classroom is located at point $(4, 7)$.



The cafeteria is located at the midpoint between the school office and Keegan's classroom. What is the location of the cafeteria?

- A $(4, 3)$
- B $(4, 4)$
- C $(4, 6)$
- D $(4, 10)$

Turn to page 28 in your answer booklet to complete question 59.

END SESSION

