STUDENT NAME _____

GRADE 5
MATHEMATICS

Administered April 2009

MATHEMATICS

Mathematics Chart

LENGTH

Metric	Customary
1 kilometer = 1000 meters	1 mile = 1760 yards
1 meter = 100 centimeters	1 mile = 5280 feet
1 centimeter = 10 millimeters	1 yard = 3 feet
	1 foot = 12 inches

CAPACITY AND VOLUME

Metric	Customary
1 liter = 1000 milliliters	1 gallon = 4 quarts
	1 gallon = 128 fluid ounces
	1 quart = 2 pints
	1 pint = 2 cups
	1 cup = 8 fluid ounces

MASS AND WEIGHT

Metric	Customary
1 kilogram = 1000 grams	1 ton = 2000 pounds
1 gram = 1000 milligrams	1 pound = 16 ounces

TIME

1 year = 365 days

1 year = 12 months

1 year = 52 weeks

1 week = 7 days

1 day = 24 hours

1 hour = 60 minutes

1 minute = 60 seconds

Metric and customary rulers can be found on the separate Mathematics Chart.

Continued on the next page

Mathematics Chart

Perimeter	square	$P = 4 \times s$
	rectangle	$P = (2 \times l) + (2 \times w)$
Area	square	$A = s \times s$
	rectangle	$A = l \times w$
Volume	cube	$V = s \times s \times s$
	rectangular prism	$V = l \times w \times h$

DIRECTIONS

Read each question. Then fill in the correct answer on your answer document. If a correct answer is not here, mark the letter for "Not here."

SAMPLE A

Which digit is in the thousands place in the number 4,861,392?

A 6

B 4

C 1

D Not here

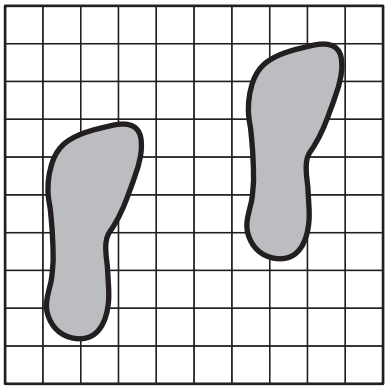
SAMPLE B

Joey has 8 books. Roberto has twice as many books as Joey has. How many books does Roberto have?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

STOP

1 Which single transformation is shown below?



A Reflection

B Rotation

C Translation

D Not here

2 Carlos earns $11 each week taking care of pets. Which of the following is the best estimate of how much money he will earn in 48 weeks taking care of pets?

F $1,000

G $500

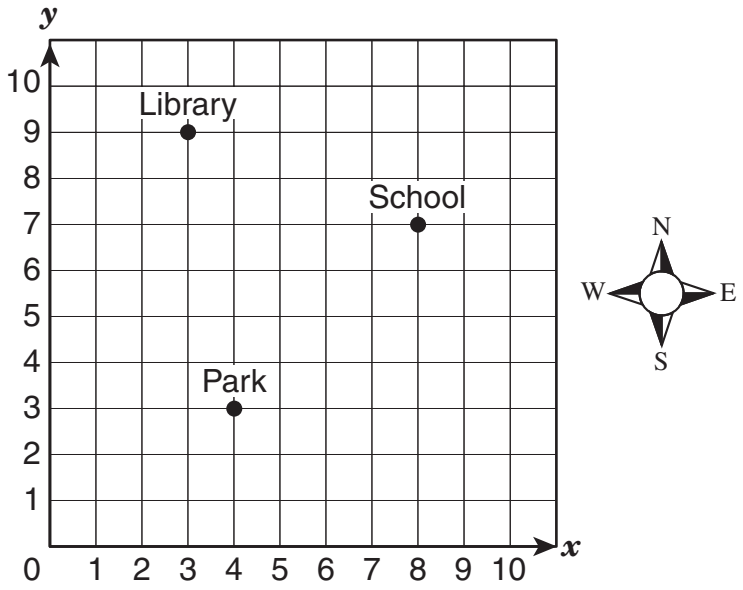
H $300

J $800

GO ON

3 The grid below shows the location of 3 places in a neighborhood.

Neighborhood



If the post office is 2 units directly south of the school, which of the following ordered pairs best represents the post office's location?

A (5, 8)

B (10, 8)

C (8, 5)

D (8, 10)

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4 The table below shows the total number of pictures that can be taken with different numbers of rolls of film.

Camera Pictures

Number of Rolls of Film	5	8	11	14
Total Number of Pictures	120	192	264	336

Which of the following statements best describes the relationship between the number of rolls of film and the total number of pictures?

F The total number of pictures equals the number of rolls of film times 24.

G The total number of pictures equals the number of rolls of film divided by 8.

H The total number of pictures equals the number of rolls of film times 120.

J The total number of pictures equals the number of rolls of film divided by 5.

5 The table below shows the area, in square kilometers, of four lakes.

Area of Four Lakes

Lake	Area (km^2)
H	59,600
M	57,800
S	82,100
O	18,960
E	?

Lake E has a greater area than Lake O but a smaller area than Lake M. Which could be the area of Lake E?

A 76,760 km^2

B 57,800 km^2

C 25,700 km^2

D 18,960 km^2

6 Robert and Julia collect stamps. Robert has 54 stamps in his stamp collection. He has 18 more stamps than Julia does. Which of the following equations can be used to find s, the number of stamps Julia has in her collection?

F $s = 54 + 18$

G $s = 54 - 18$

H $s = 54 \times 18$

J $s = 54 \div 18$

7 Nina made cookies. The recipe required less than $\frac{1}{3}$ cup of nuts. Which of the following fractions is less than $\frac{1}{3}$?

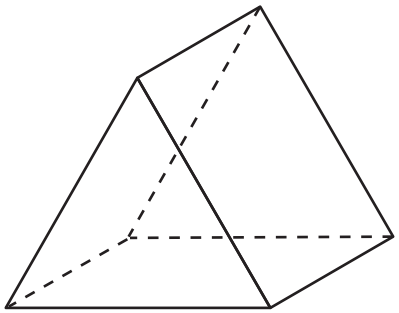
A $\frac{1}{2}$

B $\frac{3}{4}$

C $\frac{2}{5}$

D $\frac{1}{6}$

8 Which statement about the 3-dimensional figure below appears to be true?



F It has no congruent faces.

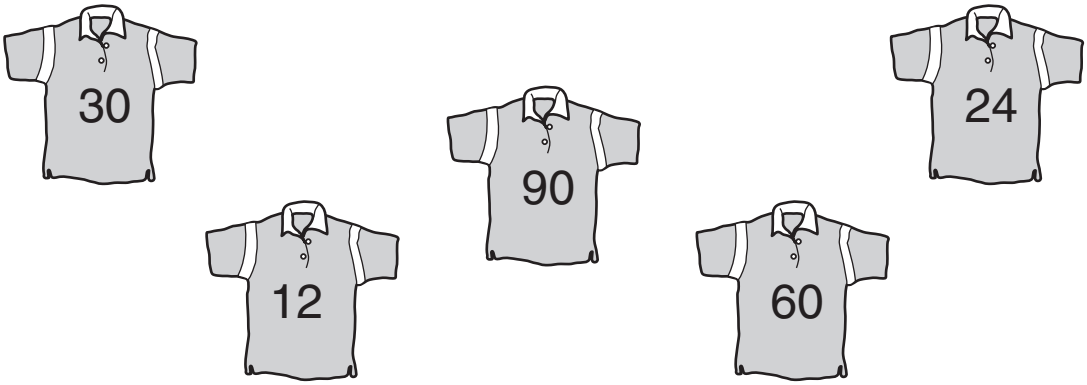
G It has 3 congruent rectangular faces.

H It has 6 congruent faces.

J It has 3 congruent triangular faces.

GO ON

9 Look at the numbers on the shirts below.



Which of the following do all of these numbers have in common?

A They are all odd numbers.

B They are all greater than 20.

C They are all multiples of 6.

D They are all factors of 90.

GO ON

10 Mrs. Acosta keeps a basket of different-colored pens on her desk. The table below shows the number of pens of each color that she has in the basket.

Mrs. Acosta's Pens

Color	Number of Pens
Black	4
Red	2
Green	1
Yellow	3

If Mrs. Acosta takes 1 pen from the basket without looking, what is the probability that the pen will be yellow?

F $\frac{3}{4}$

G $\frac{1}{10}$

H $\frac{1}{4}$

J $\frac{3}{10}$

11 Juan measured the distance from the corner of his house to the corner of his friend's house. It was a distance of 384 feet. How many yards was Juan's house from his friend's house?

A 1,152 yards

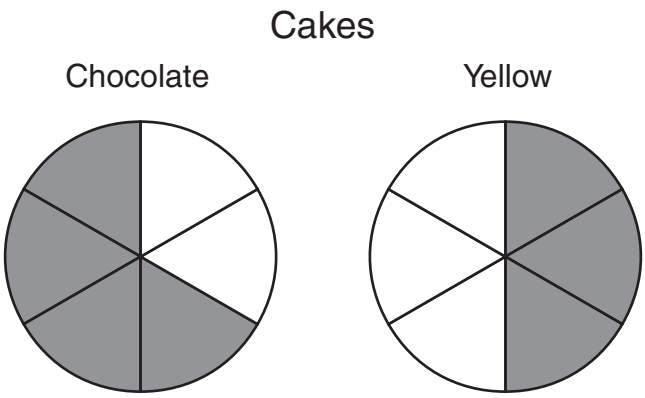
B 387 yards

C 128 yards

D 32 yards

GO ON

12 A chocolate cake and a yellow cake were each cut into 6 equal slices. The shaded parts of the model below show the part of each cake that was eaten.



Which of the following number sentences can be used to find how much more of the chocolate cake was eaten than the yellow cake?

F $\frac{2}{6} + \frac{3}{6} = \frac{5}{6}$

G $\frac{4}{6} - \frac{3}{6} = \frac{1}{6}$

H $\frac{6}{6} - \frac{4}{6} = \frac{2}{6}$

J $\frac{4}{6} + \frac{3}{6} = \frac{7}{6}$

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13 At a grocery store, there were 180 cereal boxes on shelves. There were 6 different brands of cereal, and there were an equal number of boxes of each brand. What is a way of determining the number of cereal boxes of each brand on these shelves?

A Subtract 6 from 180

B Add 6 and 180

C Multiply 180 by 6

D Divide 180 by 6

GO ON

14 Myrna is one and seventy-three hundredths meters tall. How is this number written as a decimal?

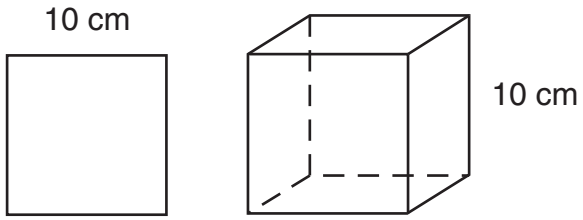
F 0.173

G 1.073

H 1.73

J 1.173

15 Look at the square and the cube shown below.



Which statement about both of these figures appears to be true?

A The square has 4 times as many vertices as the cube.

B The square is congruent to each face on the cube.

C The square has 3 fewer sides than the cube has edges.

D The square has the same number of right angles as the cube.

16 What are all the common factors of 28 and 36?

F 1, 2, and 4

G 1, 2, 4, and 9

H 1, 2, 4, 7, and 9

J 1, 2, 4, 7, 9, and 18

17 Olga bought 25 T-shirts for $8 each, including tax. She sold them all for $12 each. What is the difference between the amount of money Olga made and the amount of money she spent on these 25 T-shirts?

A $500

B $100

C $20

D $200

GO ON

18 Mr. Miller gets a card stamped each time he eats at a certain restaurant. The table below shows the relationship between the number of stamps on his card and the number of free cookies he gets on his next visit.

Restaurant Card

Number of Stamps	Number of Free Cookies on Next Visit
7	1
14	2
21	3
28	4

According to the information in the table, which of the following statements is true?

F The total number of free cookies on the next visit is the number of stamps divided by 7.

G The total number of free cookies on the next visit is 6 less than the number of stamps.

H The total number of free cookies on the next visit is 7 less than the number of stamps.

J The total number of free cookies on the next visit is the number of stamps divided by 6.

19 The table below shows the number of pages in each book in a series.

Book Series

Book	Number of Pages
A	315
B	308
C	247
D	258
E	323
F	216
G	328

What is the median number of pages in these 7 books?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

GO ON

20 Tammy left her house Saturday morning to do some errands.

- First she took 15 minutes to drop off mail at the post office.
- Then she took 45 minutes to shop at the toy store.
- Finally she took 2 hours and 15 minutes to read at the library.

If Tammy left the library at 11:30 A.M., at what time did she leave her house to drop off the mail?

F 9:15 A.M.

G 8:45 A.M.

H 9:30 A.M.

J 8:15 A.M.

21 Mrs. Kline was putting wallpaper on her kitchen walls. She used 5 rolls of wallpaper and 2 feet of another roll to cover half the kitchen. What information is needed to find the total number of feet of wallpaper Mrs. Kline needed to cover the whole kitchen?

A The number of rolls of wallpaper she bought

B The cost of a single roll of wallpaper

C The number of feet on each roll of wallpaper

D The number of feet of wallpaper left over when she finishes the kitchen

GO ON

22 The drawing below shows a rectangular bookmark. Use the ruler on the Mathematics Chart to measure the dimensions of the rectangle to the nearest millimeter.

Which of the following is closest to the perimeter of this rectangle?

F 14 mm

G 48 mm

H 166 mm

J 332 mm

23 Which of the following is equivalent to $\frac{9}{8}$?

A $\frac{8}{9}$

B $1\frac{1}{8}$

C $\frac{1}{8}$

D $1\frac{8}{9}$

24 Rudy cut 4 carrots for a salad. He cut each carrot into 16 pieces. Which number sentence can be used to find n, the total number of carrot pieces Rudy cut?

F $n = 16 + 4$

G $n = 16 - 4$

H $n = 16 \times 4$

J $n = 16 \div 4$

25 A coach asked 3 players on a basketball team to attempt 25 free throws each during practice. The table below shows the number of free throws each player made.

Free Throws

Player	Number of Free Throws Made
Pablo	12
Bill	18
Shawn	5

Based on the information in the table, which is the most reasonable prediction of the number of free throws Shawn will make out of his next 75 attempts?

A 12

B 60

C 15

D 5

GO ON

26 The calendar below shows Cory's schedule for soccer practices and soccer games.

September						
Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
				1	2 Soccer Practice 4–4:30 P.M.	3 Soccer Game 10 A.M.
4	5	6 Soccer Practice 4–5 P.M.	7	8 Soccer Practice 4–5 P.M.	9	10 Soccer Practice 4–5:30 P.M.
11	12 Soccer Practice 4–5 P.M.	13	14 Soccer Practice 4–5 P.M.	15	16 Soccer Practice 4–4:30 P.M.	17 Soccer Game 10 A.M.
18	19	20 Soccer Practice 4–5 P.M.	21	22 Soccer Practice 4–5 P.M.	23	24 Soccer Practice 4–5:30 P.M.
25	26 Soccer Practice 4–5 P.M.	27	28	29 Soccer Practice 4–5 P.M.	30	

If Cory attended every practice in September, what is the total number of minutes he spent at soccer practice during the week of September 11–17?

F 32 min

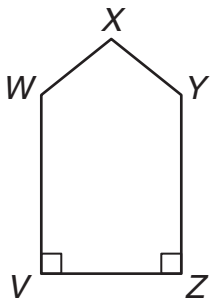
G 150 min

H 180 min

J $2\frac{1}{2}$ min

GO ON

27 Which statement is true about the figure below?



A $\overline{WX}$ is parallel to $\overline{YZ}$.

B $\overline{WV}$ is perpendicular to $\overline{YZ}$.

C $\overline{WX}$ is parallel to $\overline{WV}$.

D $\overline{WV}$ is perpendicular to $\overline{VZ}$.

28 Sarah and Jen participated in the Frisbee toss on field day. Sarah threw the Frisbee 30.95 meters. Jen threw the Frisbee 39.31 meters. How much farther did Jen throw the Frisbee than Sarah?

F 9.64 m

G 8.36 m

H 8.64 m

J 9.36 m

29 Which of the following is a composite number?

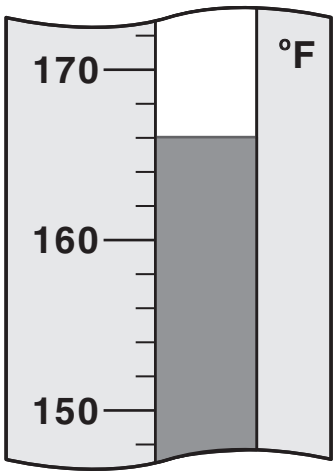
A 23

B 29

C 47

D 63

30 Christina put her cup of hot chocolate down on a table in the kitchen. The thermometer below shows the temperature of the hot chocolate.



If the temperature in the kitchen is 73°F, what is the difference between the temperature of the hot chocolate and the temperature in the kitchen?

F 83°F

G 239°F

H 93°F

J 101°F

GO ON

31 A group of 10 people spent a total of $24 on tickets to a volleyball game. The ticket prices are shown in the table below.

Volleyball Ticket Prices

Age	Price
Adults	$3
Children	$2

How many adults and children were in this group?

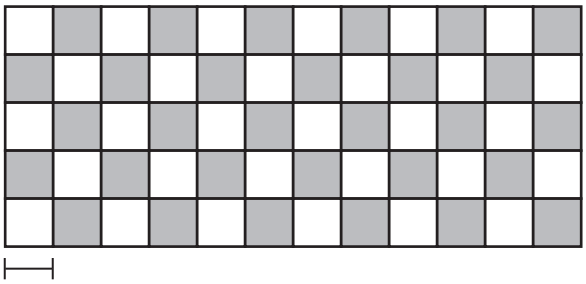
A 3 adults, 7 children

B 4 adults, 6 children

C 5 adults, 5 children

D 6 adults, 4 children

32 The drawing below represents a tile floor. Each small square represents 1 tile.



Which of the following expressions can be used to find the area of this tile floor in square feet?

F 6×2

G 12×5

H $(6 + 2) \times 2$

J $(12 + 5) \times 2$

33 A group of students made a total of $672 by washing cars on Saturday. They charged $16 to wash each car. How many cars did they wash?

A 656

B 40

C 688

D 42

34 The table below shows the start and end times of a movie at a theater.

Movie Times

Start	End
12:30 P.M.	2:45 P.M.
3:00 P.M.	5:15 P.M.
6:45 P.M.	9:00 P.M.
9:20 P.M.	11:35 P.M.

According to the information in the table, which of the following statements is true?

F The end time is exactly 2 hours 45 minutes after the start time.

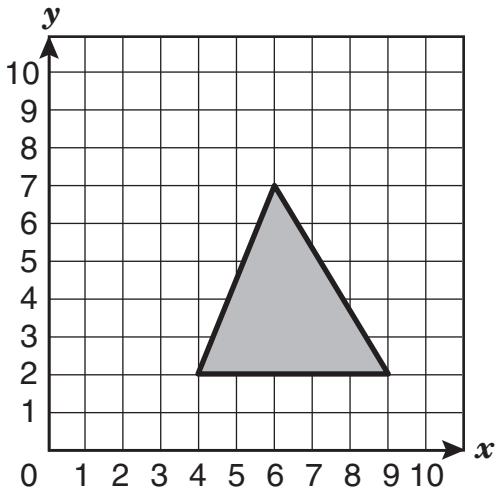
G The end time is exactly 2 hours 15 minutes after the start time.

H The end time is exactly 2 hours 30 minutes after the start time.

J The end time is exactly 3 hours 45 minutes after the start time.

GO ON

35 Look at the shaded triangle on the coordinate grid below.



Which of the following ordered pairs is located inside the triangle?

A (6, 3)

B (8, 5)

C (3, 6)

D (5, 8)

36 The table below shows the liquid capacity of 4 household objects.

Household Objects

Object	Capacity
Bucket	256 fluid ounces
Punch bowl	240 fluid ounces
Fish tank	640 fluid ounces
Sink	512 fluid ounces

Which of these objects has a capacity of exactly 80 cups?

F Bucket

G Punch bowl

H Fish tank

J Sink

GO ON

37 The Mayes, Reyna, and Wilson families have lived a combined total of 44 years in their houses.

- The Mayes family has lived 12 years in their house.
- The Reyna family has lived $\frac{1}{2}$ as many years in their house as the Mayes family has.

How many years has the Wilson family lived in their house?

A 18 years

B 26 years

C 8 years

D 16 years

38 Gus collects sports cards. He has 108 packages of cards. Each package contains 15 cards. How many sports cards does Gus have altogether?

F 648

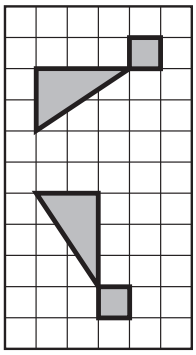
G 1,480

H 1,620

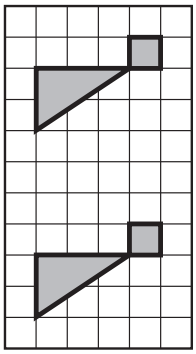
J 508

39 Which pair of figures below shows only a reflection?

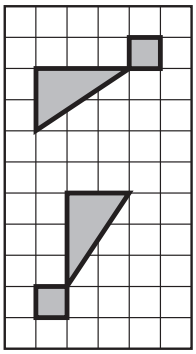
A



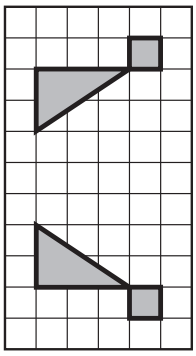
B



C



D



GO ON

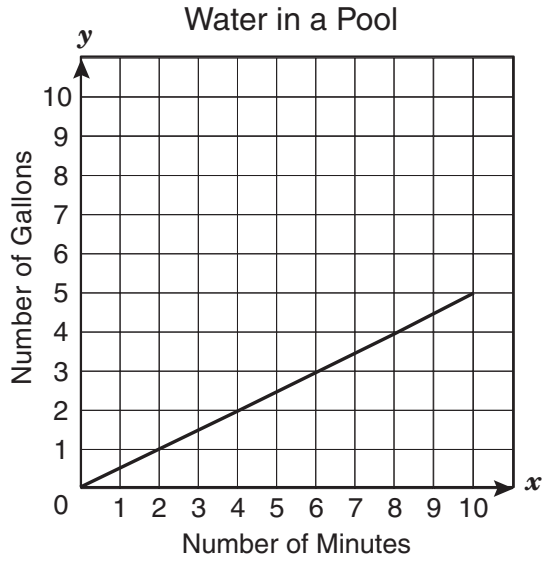
40 Mrs. Moeller is filling a child's swimming pool with water. The table below shows the number of gallons in the pool after different numbers of minutes.

Water in a Pool

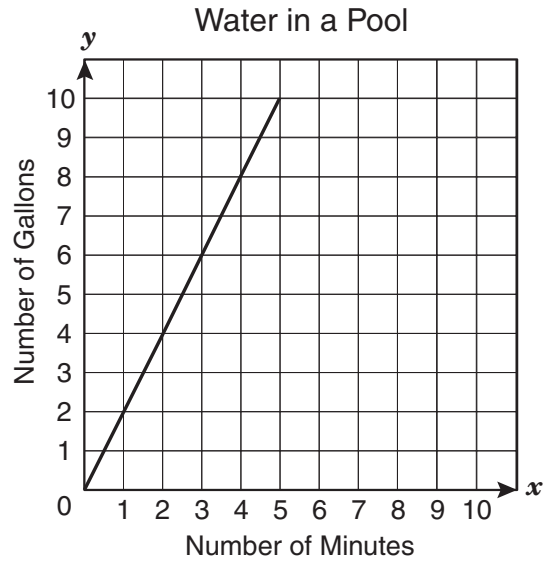
Number of Minutes	Number of Gallons
2	4
4	8
5	10

Which graph best represents the data in this table?

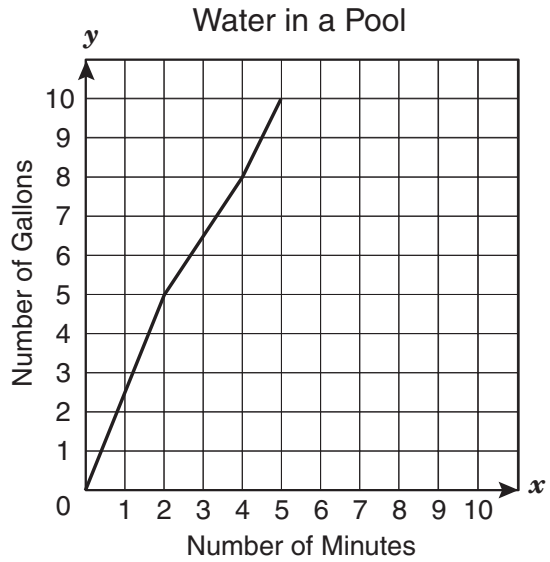
F



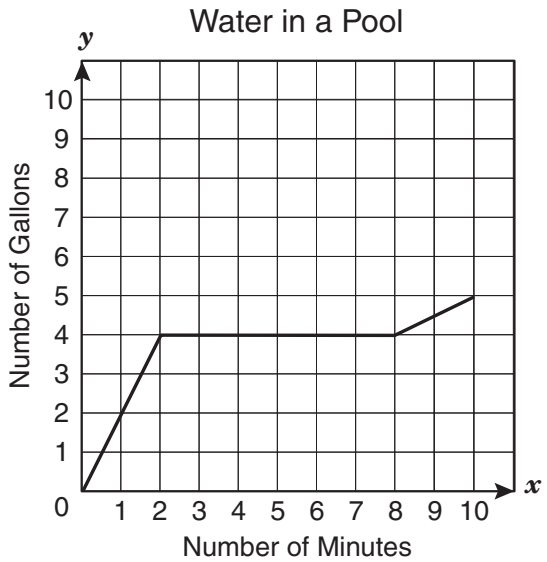
H



G



J



GO ON

41 Calvin saved $\frac{1}{4}$ of the price of a car he wanted to buy. Which fraction is equivalent to $\frac{1}{4}$?

A $\frac{2}{12}$

B $\frac{5}{20}$

C $\frac{2}{16}$

D $\frac{5}{25}$

42 An auditorium has a total of 25 rows of seats, and each row contains 15 seats. During a choir concert, 233 seats were filled. What is one way of finding the number of seats that were empty during the concert?

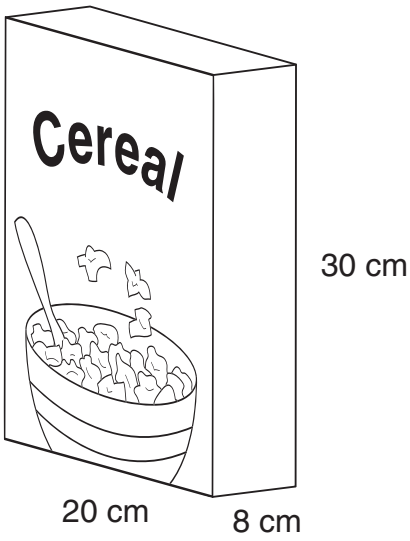
F Multiply 25 by 15 and then subtract 233 from the product

G Add 25 and 15 and then subtract the sum from 233

H Multiply 25 by 15 and then add 233 to the product

J Add 25 and 15 and then multiply the sum by 233

43 A cereal box has the dimensions shown below.



Which of the following expressions can be used to find the volume of the cereal box in cubic centimeters?

A $20 + 8 \times 30$

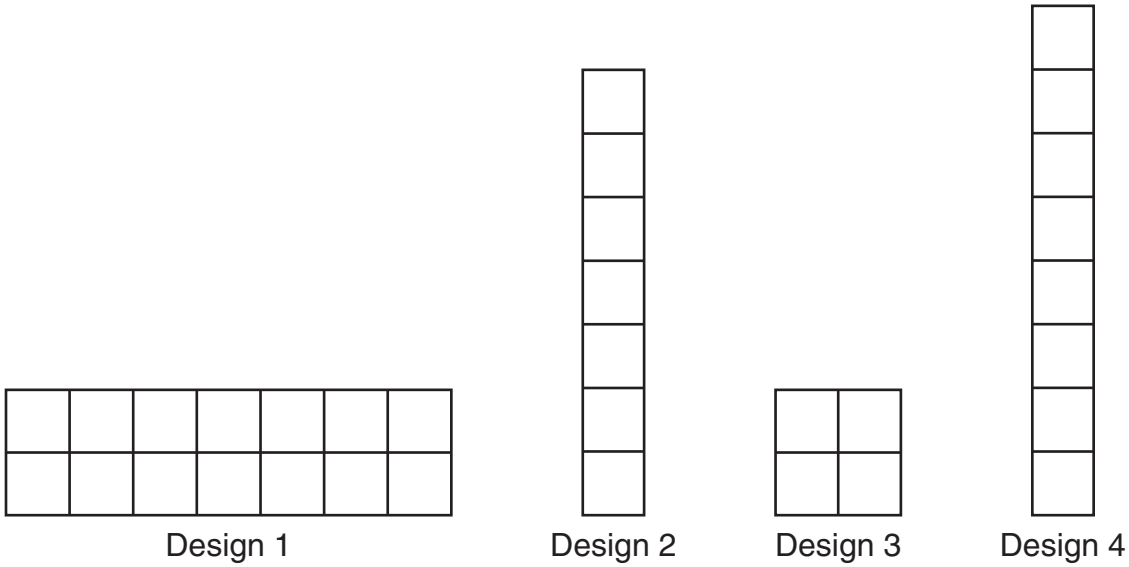
B $20 \times 8 + 30$

C $20 + 8 + 30$

D $20 \times 8 \times 30$

GO ON

44 Lucy used square tiles to make 4 designs, as shown below.



Which design is composed of a prime number of tiles?

F Design 1

G Design 2

H Design 3

J Design 4

BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS ON THE ANSWER DOCUMENT.

STOP

TAKS GRADE 5
MATHEMATICS
APRIL 2009