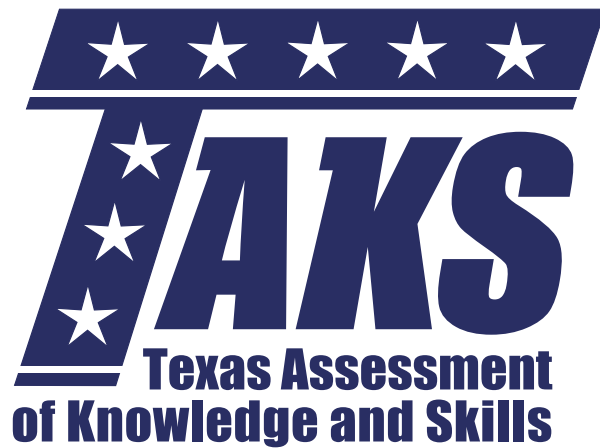


STUDENT NAME _____



**GRADE 6
MATHEMATICS
READING**

Administered Spring 2004

MATHEMATICS

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.”

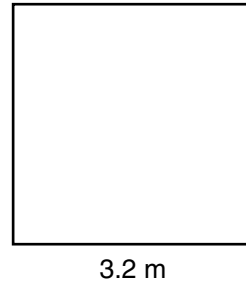
SAMPLE A

Find the greatest common factor of 12 and 18.

- A 3
- B 6
- C 9
- D Not here

SAMPLE B

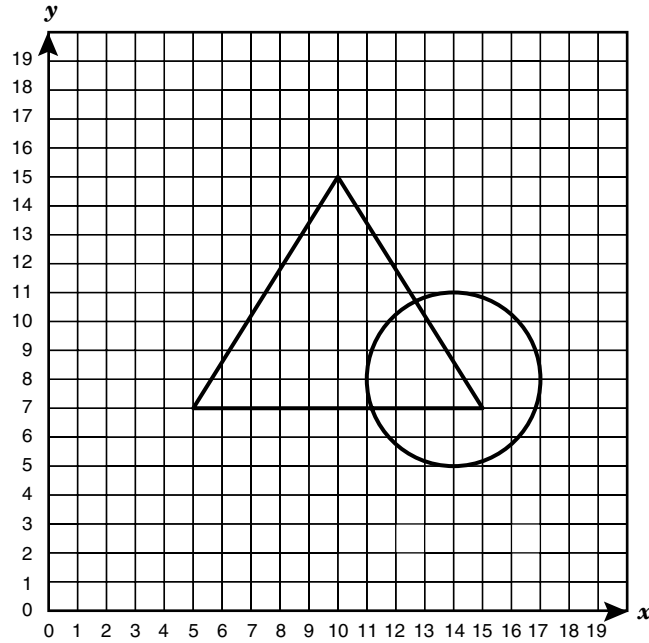
Find the perimeter of this square rug in meters.



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



1 Which ordered pair represents a point located inside both the triangle and the circle?

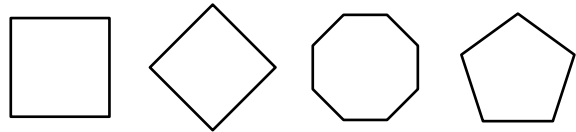


- A (8, 4)
- B (8, 10)
- C (14, 8)
- D (15, 9)

2 At Sandra's school there is 1 teacher for every 15 students. There are 630 students at the school. Which proportion can be used to find x , the number of teachers?

- F $\frac{x}{15} = \frac{1}{630}$
- G $\frac{15}{1} = \frac{x}{630}$
- H $\frac{1}{15} = \frac{x}{630}$
- J $\frac{x}{1} = \frac{15}{615}$

3 Look at the shapes below.



Which statement best describes these shapes?

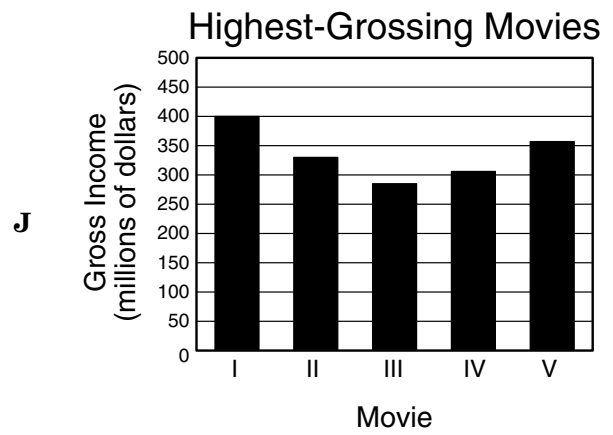
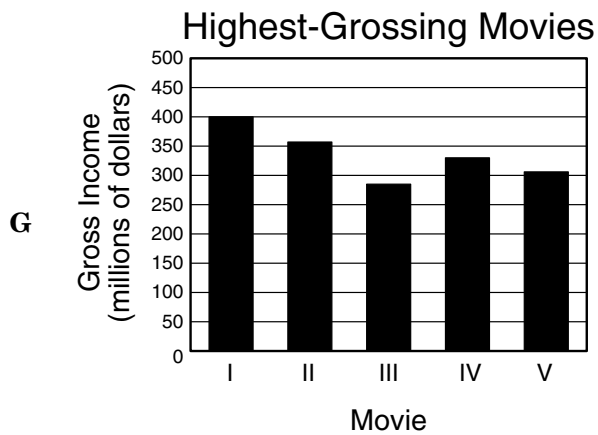
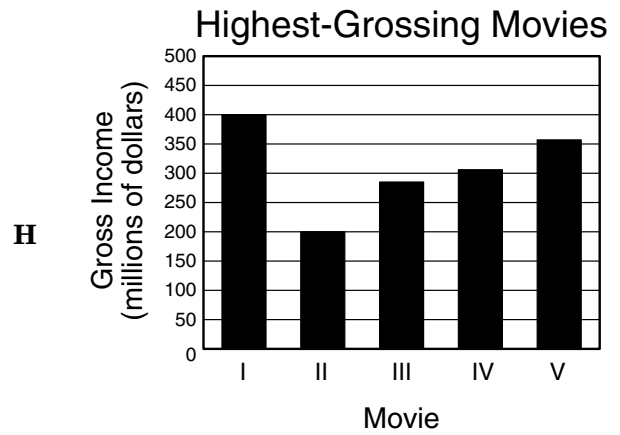
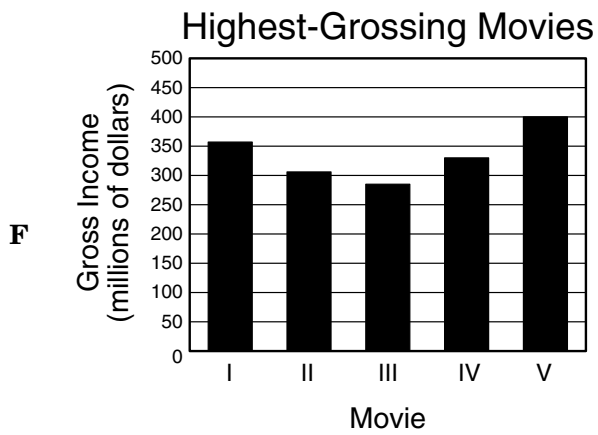
- A They all appear to be regular polygons.
- B They all have an even number of sides.
- C They all have an even number of angles.
- D They all contain only right angles.

4 The table shows the gross income of 5 of the highest-grossing U.S. movies from 1982 to 1996.

Highest-Grossing Movies

Movie	Gross Income (millions of dollars)
I	399.8
II	329.7
III	285.0
IV	306.2
V	356.8

Which graph most accurately displays the information in the table?



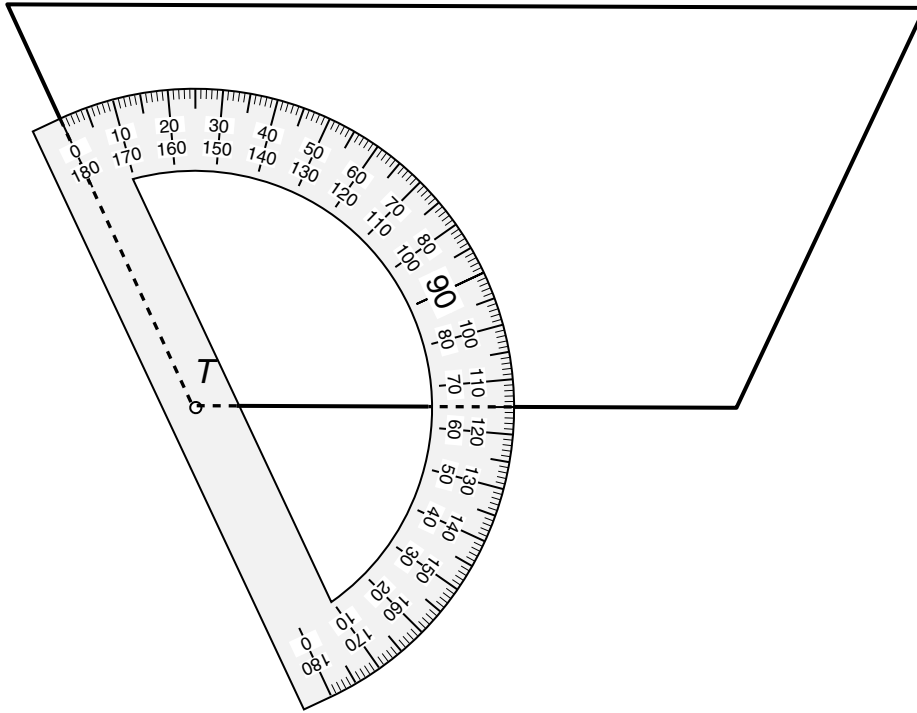
5 Several middle school bands boarded buses after a marching competition. If there were 21 buses and about 47 band members on each bus, about how many band members were on the buses in all?

- A** 70
- B** 900
- C** 1,000
- D** 1,250

6 Miss Caruso's car travels an average of 22 miles per gallon of gasoline. The gas tank holds 12 gallons. How would you find the number of miles Miss Caruso can drive on 1 full tank of gasoline?

- F** Add the car's average mileage in miles per gallon to the number of gallons the tank can hold
- G** Subtract the number of gallons the tank can hold from the car's average mileage in miles per gallon
- H** Multiply the car's average mileage in miles per gallon by the number of gallons the tank can hold
- J** Divide the car's average mileage in miles per gallon by the number of gallons the tank can hold

7 Lynn's garden is shaped like an isosceles trapezoid.



Find the measure of $\angle T$ to the nearest degree.

- A 65°
- B 75°
- C 115°
- D 125°

- 8 Jade is 3 years older than Steven, and Steven is 5 years younger than Andrew, who is 15 years old. Which table could be used to find Jade's age?

Ages

F

Name	Age (years)
Jade	7
Steven	8
Andrew	15

Ages

G

Name	Age (years)
Jade	$15 - 5 + 3$
Steven	$15 - 5$
Andrew	15

Ages

H

Name	Age (years)
Jade	$15 - 5$
Steven	$15 - 5 + 3$
Andrew	15

Ages

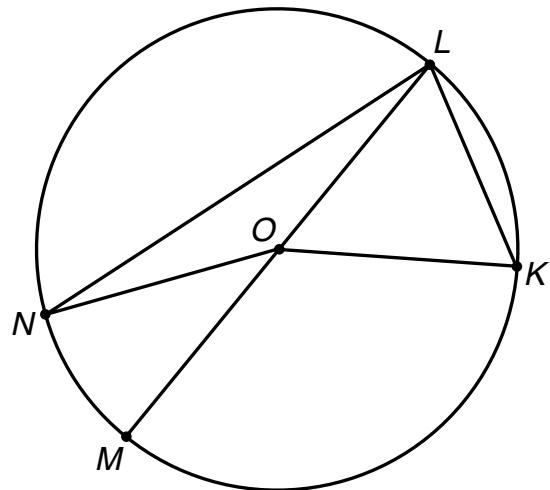
J

Name	Age (years)
Jade	3
Steven	5
Andrew	15

- 9 Josie's horse eats about 2 bales of hay every 5 days. About how many bales of hay does Josie's horse eat in 31 days?

- A 8
B 12
C 16
D 78

- 10 A circle with center at point O is shown below.

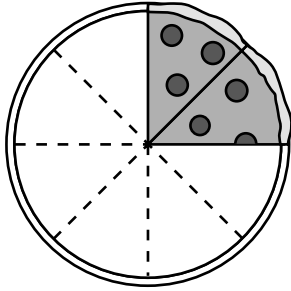


Which line segment is 2 times the length of radius OK ?

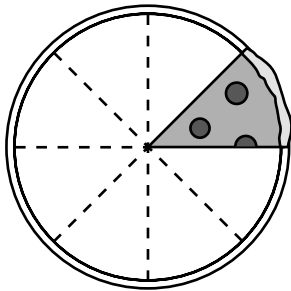
- F Segment LN
G Segment LM
H Segment LK
J Segment ON

- 11 Frank and Joe each bought a small pizza and ate only part of their pizza. The pictures below show how much of the pizzas were left.

Frank's Pizza



Joe's Pizza



What portion of the pizza did Frank and Joe eat altogether?

- A $\frac{3}{8}$
 B $1\frac{3}{4}$
 C $\frac{7}{8}$
 D $1\frac{5}{8}$

- 12 A triangle has angles measuring 45° and 55° . What is the measure of the triangle's third angle?

- F 80°
 G 100°
 H 125°
 J 135°

- 13 The Q&R Band performed concerts from 1992 to 2001. The table shows the number of concerts the band performed each year.

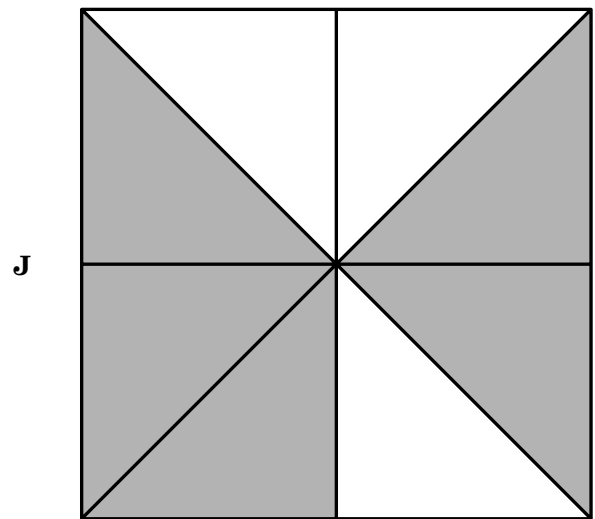
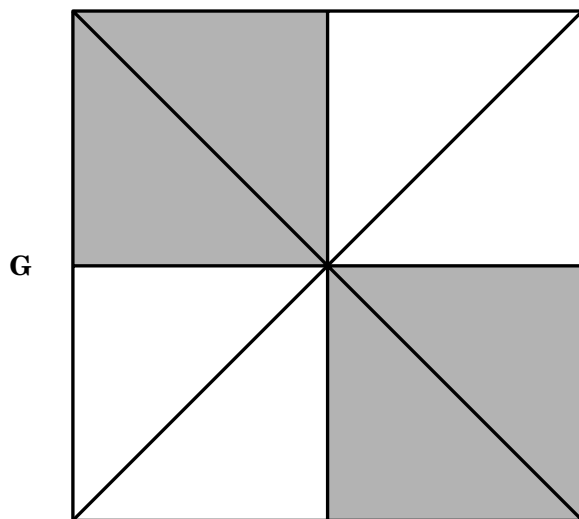
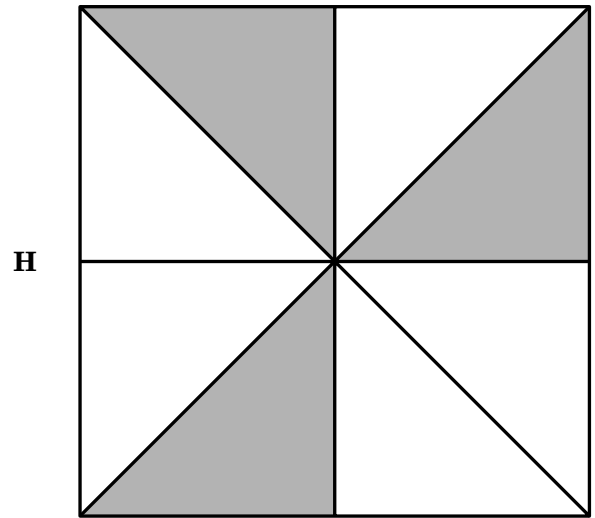
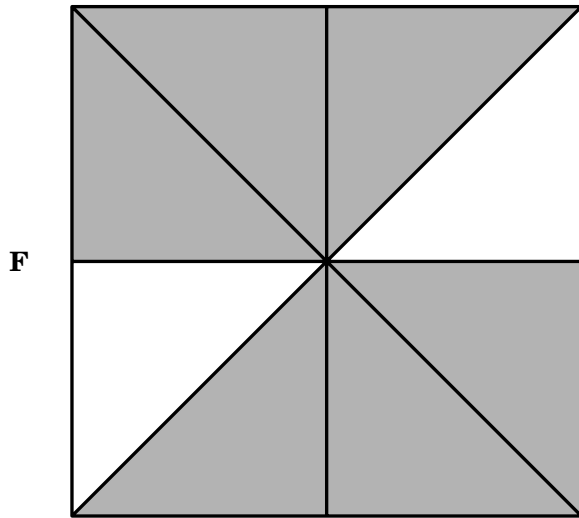
Q&R Band Performances

Year	Number of Concerts
1992	168
1993	172
1994	142
1995	180
1996	162
1997	162
1998	180
1999	180
2000	168
2001	172

What is the median of the number of concerts?

- A 162
 B 170
 C 180
 D 172

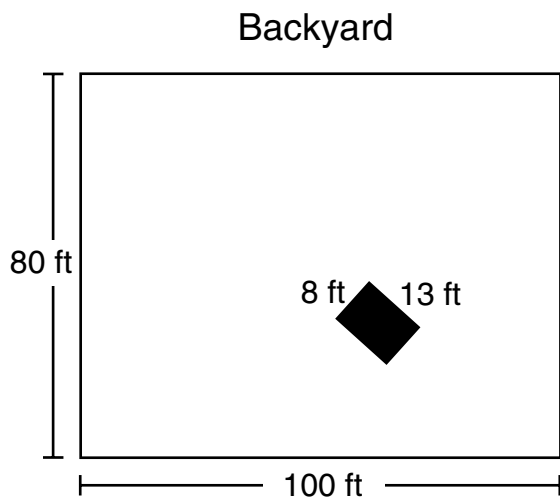
- 14 Each square below is divided into sections of equal size. Which square has 62.5% of its total area shaded?



- 15 During basketball season Wanda made 2 out of every 3 free throws she attempted. In the last basketball game, Wanda attempted 12 free throws. How many free throws would she have been expected to make?

- A 2
- B 8
- C 24
- D 36

- 16 A family put a rectangular patio in their backyard and planted grass in the rest of the yard. The rectangular backyard is 100 feet by 80 feet, and the patio is 13 feet by 8 feet. What is the area of the backyard that is planted with grass?



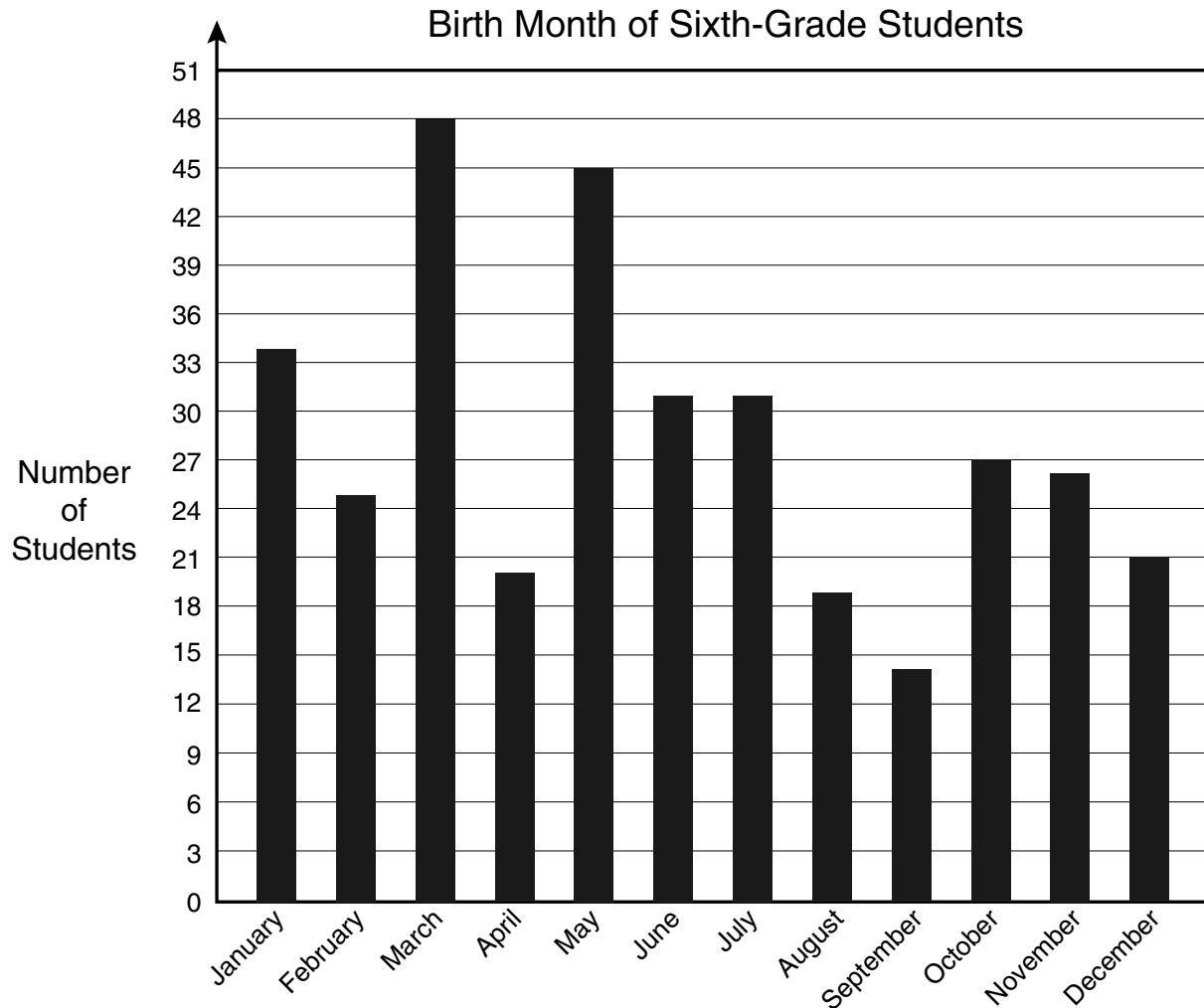
- F** 402 sq ft
G 7,896 sq ft
H 8,000 sq ft
J 8,104 sq ft
- 17 Find the greatest common factor of 12, 24, and 36.
- A** 6
B 12
C 18
D 24

- 18 Mrs. Miller is baking cookies for 16 children. She has baked 2 dozen cookies. If she wants each child to receive exactly 2 cookies and have no cookies left over, how many more cookies should she bake?

- F** 1.5
G 8
H 24
J 32

- 19 If the cost of renting a canoe is a basic fee of \$5 plus an additional \$2.50 for each hour that the canoe is rented, which equation can be used to find c , the cost in dollars of the rental for h hours?
- A** $c = 2.5h + 5$
B $c = 5h + 2.5$
C $c = 2.5(h + 5)$
D $c = 5(h + 2.5)$

20 Apollo Middle School collected the following data from students.



Which statement is supported by the graph?

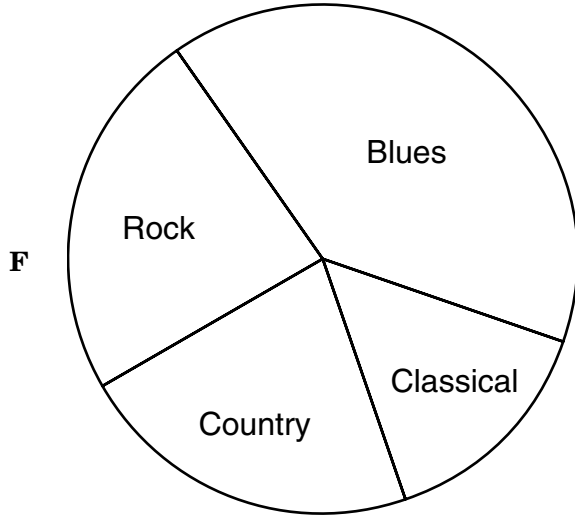
- F** More than 25% of the students were born in either January or March.
- G** The second half of the year had fewer births than the first half.
- H** May was the birth month for 30 students.
- J** The same number of births per month occurred in February, October, and November.

21 The Springer family took a trip for the holidays. When they left home, the odometer in their car read 5,364.6 miles. When they returned from their trip, the odometer read 7,347.0 miles. How many miles did the Springers travel?

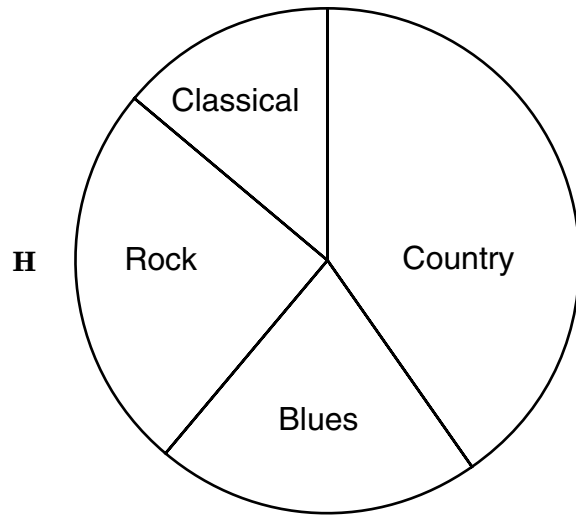
Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

- 22 At Central City Music Store, 15% of the music sold is classical, 20% is blues, 25% is rock, and 40% is country. Which graph best represents these data?

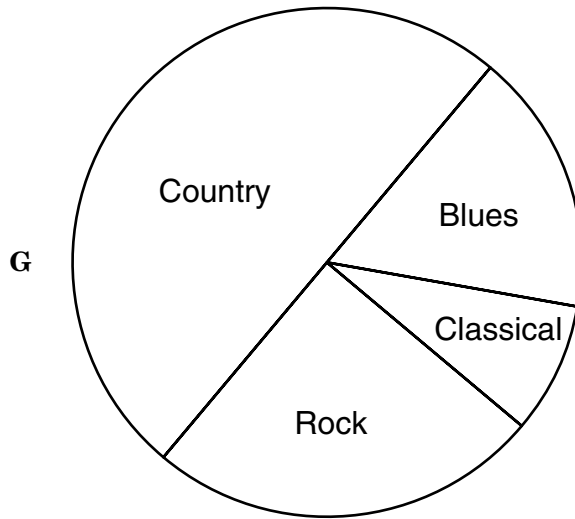
Central City Music Store



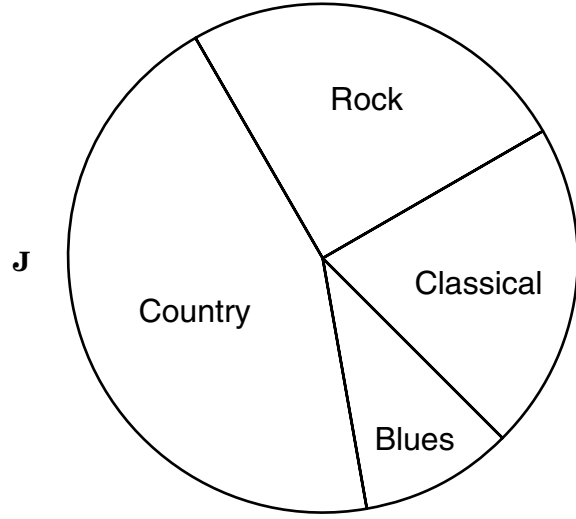
Central City Music Store



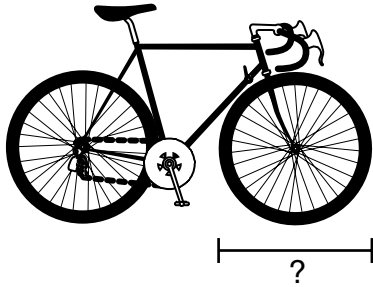
Central City Music Store



Central City Music Store



- 23 Trevor knows the circumference of his bicycle tire, but he needs to find the diameter.



Which method can Trevor use to find the diameter?

- A Multiply the circumference by 2 and divide the result by π
- B Divide the circumference by 2 and multiply the result by π
- C Multiply the circumference by π
- D Divide the circumference by π
- 24 Felicia went shopping for clothes. She bought a pair of jeans priced at \$28.00, a sweater priced at \$32.50, and a belt priced at \$18.75. If there was an 8.75% tax on clothing items, which procedure could be used to find the amount of tax Felicia paid?
- F Multiply the tax rate by the sum of the prices of the clothing items
- G Add the prices of the clothing items to the tax rate
- H Add the prices of the clothing items
- J Multiply the tax rate by the price of the most expensive clothing item

- 25 The table below shows the areas of a triangle where the height of the triangle stays the same but the base changes.

Areas of Triangles

Height (units)	Base (units)	Area (square units)
6	2	6
6	4	12
6	6	18
6	8	24
6	n	?

Which expression can be used to find the area of a triangle that has a height of 6 units and a base of n units?

- A $\frac{n}{2}$
- B $\frac{6}{2}$
- C $\frac{6n}{2}$
- D $6n$
- 26 An animal shelter currently has 20 cats and 25 dogs. What is the ratio of cats to dogs?
- F 5 to 4
- G 4 to 9
- H 4 to 5
- J 1 to 5

27 Mrs. Valcome has \$25.00 to spend on seeds for her flower garden. Marigold seeds cost \$1.50 per package, and zinnia seeds cost \$1.25 per package, tax included. If Mrs. Valcome buys 10 packages of marigold seeds, how can she determine how much money she has left to spend on zinnia seeds?

- A** Add \$1.50 and \$1.25
- B** Subtract the product of 10 and \$1.50 from \$25.00
- C** Multiply \$1.25 and 10
- D** Divide 10 by \$1.25

28 The formula $F = \frac{9}{5}C + 32$ can be used to convert a temperature from degrees Celsius to degrees Fahrenheit. Which of the following best represents $\frac{9}{5}$?

- F** 9.5
- G** 1.8
- H** 0.55
- J** 0.18

29 Which of the following is the least common multiple that Valerie can use to add three fractions with denominators of 6, 8, and 9?

- A** 48
- B** 54
- C** 72
- D** 144

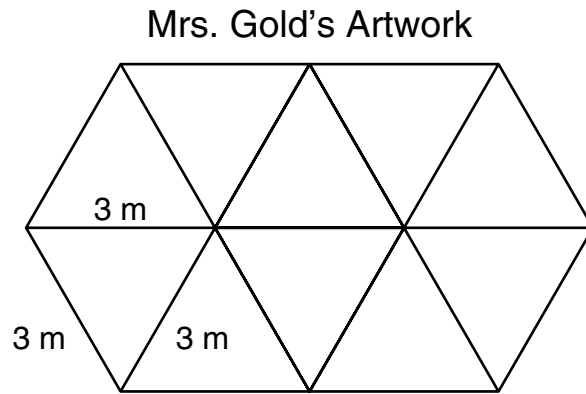
30 Gerald got out of bed at 7:05 A.M. and returned home from school at 2:50 P.M. About how many hours elapsed between the time he got out of bed and the time he returned home from school?

- F** 4 h
- G** 5 h
- H** 7 h
- J** 8 h

31 Which statement about the mixed number $1\frac{1}{3}$ is true?

- A** $1\frac{3}{10} > 1\frac{1}{3}$
- B** $2 < 1\frac{1}{3}$
- C** $1\frac{1}{3} > 1\frac{3}{10}$
- D** $1\frac{1}{3} < 1\frac{1}{4}$

- 32 Mrs. Gold designed a piece of art by outlining equilateral triangles with wire.



How much wire did Mrs. Gold use to complete her piece of art?

- F 9 m
- G 33 m
- H 90 m
- J 57 m

- 33** Tickets for a circus performance cost \$9.50 for an adult and \$6.75 for a child. Mr. Snyder and some of his friends, a group of 4 adults and 5 children, went to the circus performance. Mr. Snyder paid for all the tickets.

Read the problem-solving steps shown below. Arrange the steps in the correct order for Mr. Snyder to find the total cost for the tickets.

Step K: Add the two products together

Step L: Write down the number of adults and the number of children going to the circus performance

Step M: Multiply the cost of an adult ticket by the number of adults

Step N: Multiply the cost of a child's ticket by the number of children

Which list shows the steps in the correct order?

- A** L, K, M, N
- B** L, M, N, K
- C** N, M, L, K
- D** M, N, L, K

- 34** What is the rule to find the value of a term in the sequence below?

Sequence

Position, n	Value of Term
1	1
2	4
3	7
4	10
5	13
n	?

- F** $n + 3$
- G** $3n - 2$
- H** $3n$
- J** $n - 2$

- 35** Nate has a bag containing 3 red, 2 blue, 4 yellow, and 3 green marbles. If he randomly chooses one marble from the bag, what is the probability that the marble will be blue?

- A** $\frac{5}{6}$
- B** $\frac{1}{3}$
- C** $\frac{1}{4}$
- D** $\frac{1}{6}$

36 Mr. and Mrs. Gunther tiled their rectangular porch using square tiles. Each box of tile contained 30 square tiles. The rectangular porch measured 38 feet by 22 feet. What missing piece of information is needed in order to find the number of boxes of tile the Gunthers needed?

- F** Area of each square tile
- G** Perimeter of the box
- H** Perimeter of the porch
- J** Area of the porch

37 Manuel's heart beats 9 times per 10 seconds while Manuel is resting. About how many times would Manuel's heart beat during 3 minutes of rest?

- A** 27
- B** 162
- C** 270
- D** 200

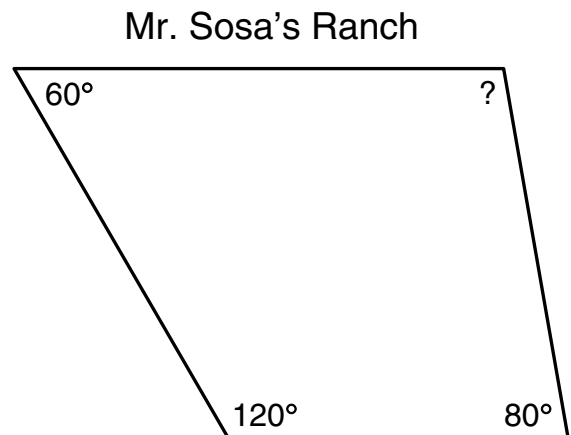
38 If Mr. Albright drives at a constant speed of 65 miles per hour, which method can be used to find the number of hours it will take him to drive 260 miles?

- F** Add 65 and 260
- G** Subtract 65 from 260
- H** Multiply 260 by 65
- J** Divide 260 by 65

39 Which is the prime factorization of 315?

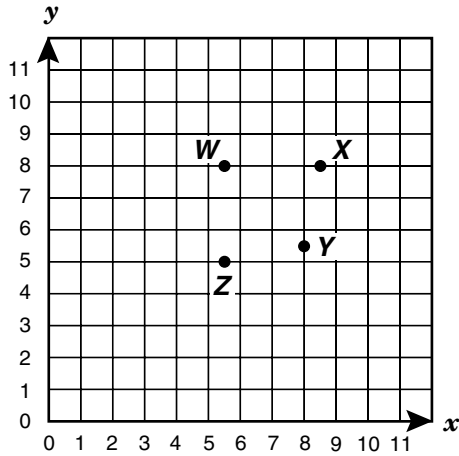
- A** $3^3 \cdot 5$
- B** $3^3 \cdot 7$
- C** $3^2 \cdot 5 \cdot 7$
- D** $3 \cdot 5^2 \cdot 7$

40 Mr. Sosa has a ranch in the shape of a trapezoid. The sides of the ranch form angles measuring 60° , 80° , and 120° . What is the measure of the fourth angle?



- F** 80°
- G** 100°
- H** 240°
- J** 260°

- 41 What point on the grid below corresponds to the coordinate pair $(5\frac{1}{2}, 8)$?



- A Point W
- B Point X
- C Point Y
- D Point Z

- 42 Franklin's Vending Service received a shipment of soda for its machines. The manager determined that 15% of the cans were damaged. What fraction of the cans were damaged?

- F $\frac{1}{15}$
- G $\frac{3}{20}$
- H $\frac{1}{5}$
- J $\frac{2}{3}$

- 43 Bob's Lunch Café offers 3 kinds of sandwich fillings and 3 kinds of bread. Which table shows all the possible sandwich combinations at Bob's Lunch Café?

Sandwich Combinations

A

Bread	Sandwich Filling
White	Chicken
Wheat	Chicken
Sourdough	Chicken
White	Tuna
Wheat	Tuna
Sourdough	Tuna

Sandwich Combinations

C

Bread	Sandwich Filling
White	Chicken
Wheat	Tuna
Sourdough	Ham

Sandwich Combinations

B

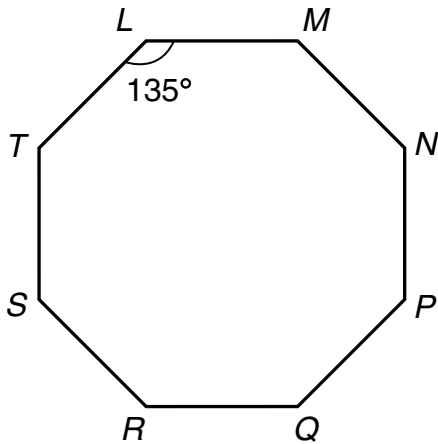
Bread	Sandwich Filling
White	Chicken
White	Tuna
White	Ham
Wheat	Chicken
Wheat	Tuna
Wheat	Ham
Sourdough	Chicken
Sourdough	Tuna
Sourdough	Ham

Sandwich Combinations

D

Bread	Sandwich Filling
White	Chicken
White	Chicken
White	Chicken
Wheat	Tuna
Wheat	Tuna
Wheat	Tuna
Sourdough	Ham
Sourdough	Ham
Sourdough	Ham

- 44 The angle at each vertex of a regular octagon is 135° .



What type of angle is at each vertex of a regular octagon?

- F** Obtuse
G Right
H Straight
J Acute
- 45 John is going to make three kinds of cookies. He will need $2\frac{1}{3}$ cups flour for the first kind, $2\frac{1}{4}$ cups flour for the second kind, and $3\frac{1}{3}$ cups flour for the third kind. How much flour does John need for all three kinds of cookies?
- A** $8\frac{1}{12}$ cups
B $7\frac{11}{12}$ cups
C $5\frac{2}{3}$ cups
D $5\frac{7}{12}$ cups

- 46 Pedro bought a 2-liter bottle of soda. What is the volume of the bottle in milliliters?

- F** 20,000 mL
G 2,000 mL
H 200 mL
J 20 mL

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

