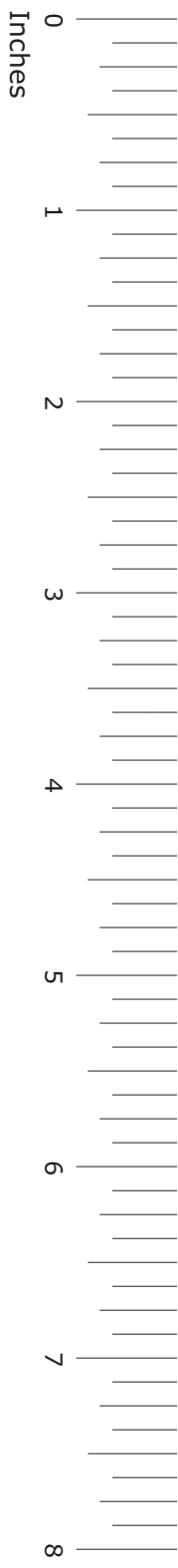
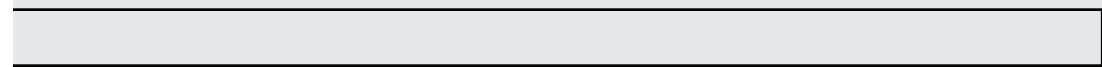


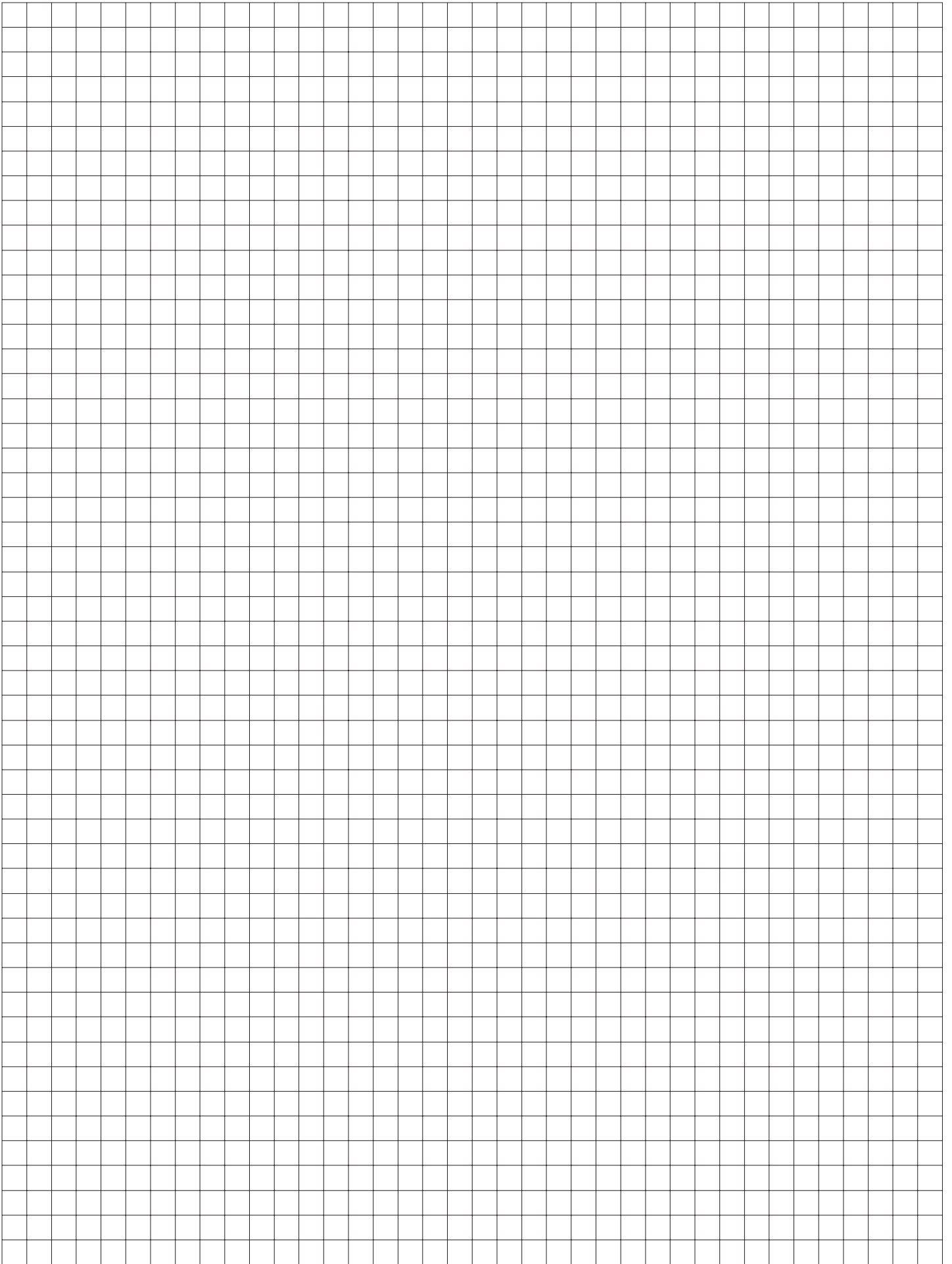
GRADE 7
Mathematics

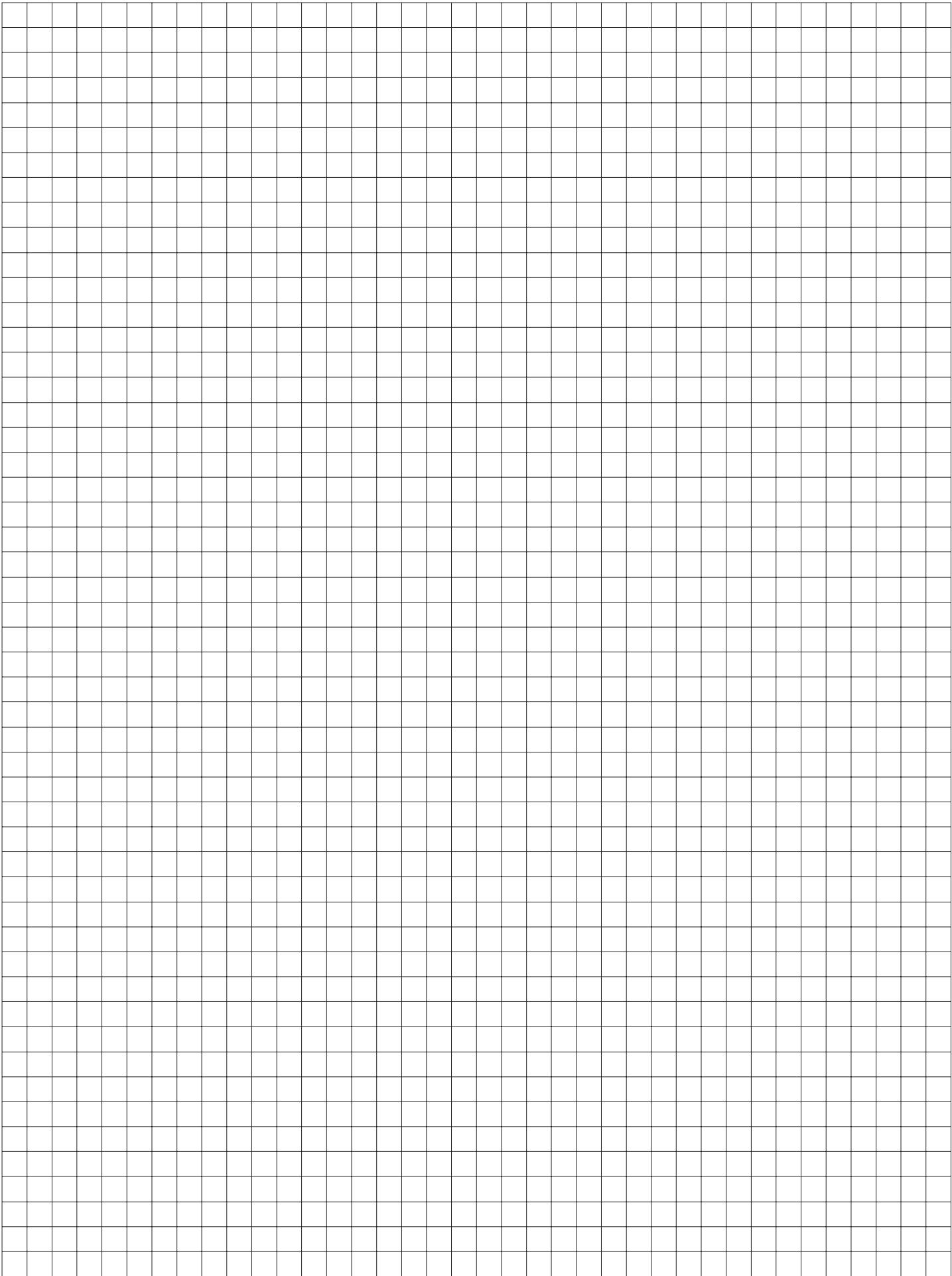
Administered May 2019

RELEASED









MATHEMATICS

DIRECTIONS

Read each question carefully. For a multiple-choice question, determine the best answer to the question from the four answer choices provided. For a griddable question, determine the best answer to the question. Then fill in the answer on your answer document.

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- 4 Pamela rode her bike at a constant rate of 0.1 kilometer per minute. Which table represents y , the number of kilometers Pamela rode her bike in x minutes?

F Bike Ride

| Number of Minutes, x | Number of Kilometers, y |
|------------------------|---------------------------|
| 5 | 0.1 |
| 10 | 0.1 |
| 15 | 0.1 |
| 20 | 0.1 |
| 25 | 0.1 |

H Bike Ride

| Number of Minutes, x | Number of Kilometers, y |
|------------------------|---------------------------|
| 5 | 0.1 |
| 10 | 0.2 |
| 15 | 0.3 |
| 20 | 0.4 |
| 25 | 0.5 |

G Bike Ride

| Number of Minutes, x | Number of Kilometers, y |
|------------------------|---------------------------|
| 5 | 0.5 |
| 10 | 1.0 |
| 15 | 1.5 |
| 20 | 2.0 |
| 25 | 2.5 |

J Bike Ride

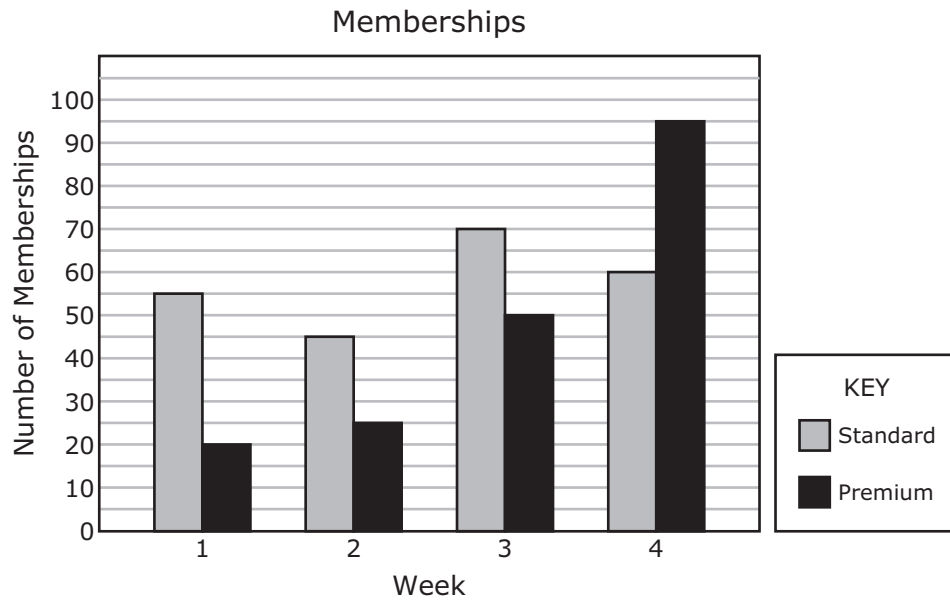
| Number of Minutes, x | Number of Kilometers, y |
|------------------------|---------------------------|
| 5 | 5.1 |
| 10 | 10.1 |
| 15 | 15.1 |
| 20 | 20.1 |
| 25 | 25.1 |

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- 5 A stereo speaker in the shape of a triangular pyramid has a height of 6 inches. The area of the base of the speaker is 11 square inches.

What is the volume of the speaker in cubic inches?

- A 22 in.^3
- B 198 in.^3
- C 66 in.^3
- D 33 in.^3

- 6 A club sold standard and premium memberships. The graph shows the number of each type of membership sold over the last four weeks.



Which statement is supported by the information in the graph?

- F The number of premium memberships sold during Week 4 was 75% more than the number of premium memberships sold during Week 1.
- G The total number of memberships sold during Week 1 was equal to the total number of memberships sold during Week 2.
- H The number of premium memberships sold during Week 3 was 2 times the number of premium memberships sold during Week 2.
- J The total number of memberships sold during Week 4 was 35 less than the total number of memberships sold during Week 3.

- 7 Vincent flipped three coins during a probability experiment. The outcomes of the first 40 trials are shown in the table.

Probability Experiment

| Faces Showing on Flipped Coins | Number of Outcomes |
|--------------------------------|--------------------|
| 3 tails | 4 |
| 1 head, 2 tails | 13 |
| 2 heads, 1 tail | 16 |
| 3 heads | 7 |

Based on the information in the table, in how many of the next 120 trials will the outcome be exactly two of the coins showing heads?

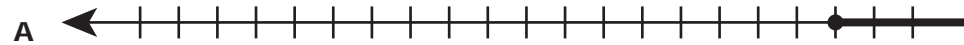
- A 60
- B 87
- C 39
- D 48

-
- 8 Chris bought 10.4 gallons of gasoline. There are approximately 3.8 liters in 1 gallon.

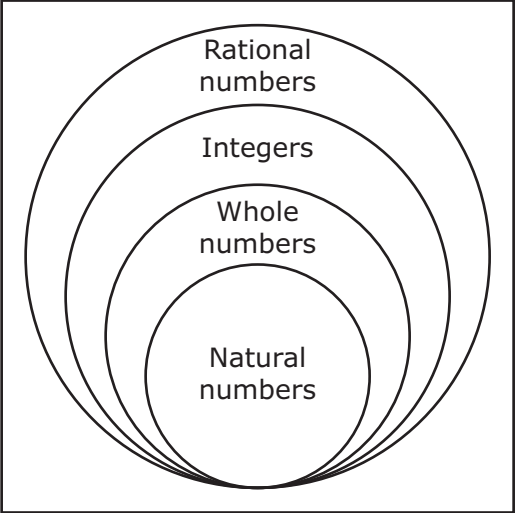
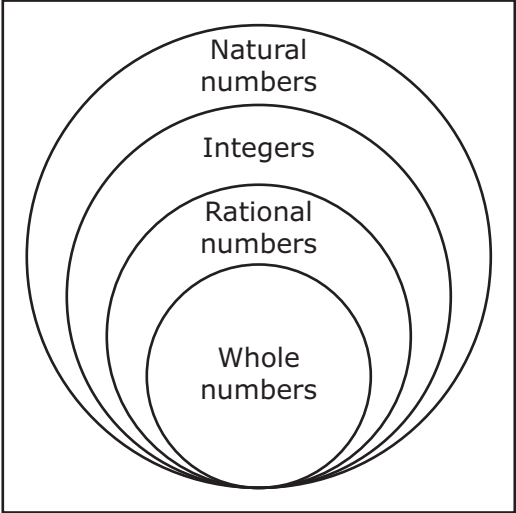
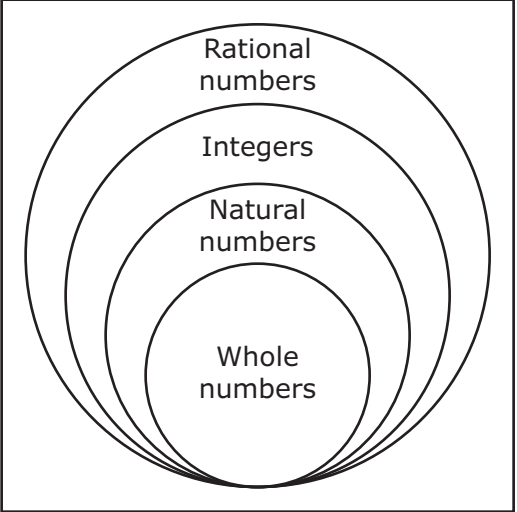
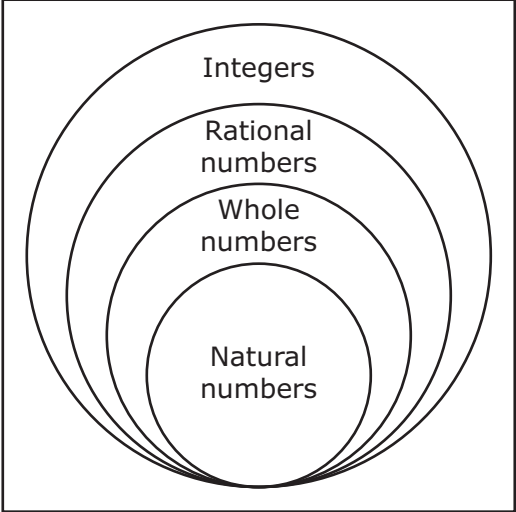
Which measurement is closest to the number of liters of gasoline Chris bought?

- F 11.44 L
- G 2.74 L
- H 39.52 L
- J 14.20 L

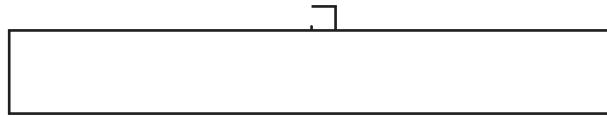




10 Which



- 11 The net of a triangular prism is shown. Use the ruler provided to measure the dimensions of the net to the nearest half centimeter.

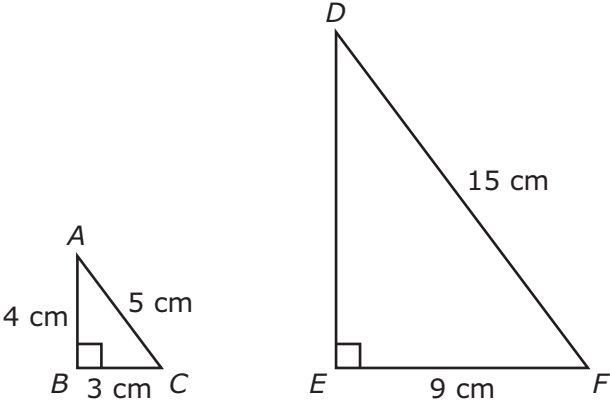


12 What is the solution to this equation?

$$2x + 10 = 28$$

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

13 Triangle ABC is similar to triangle DEF .



Which proportion can be used to find the length of DE ?

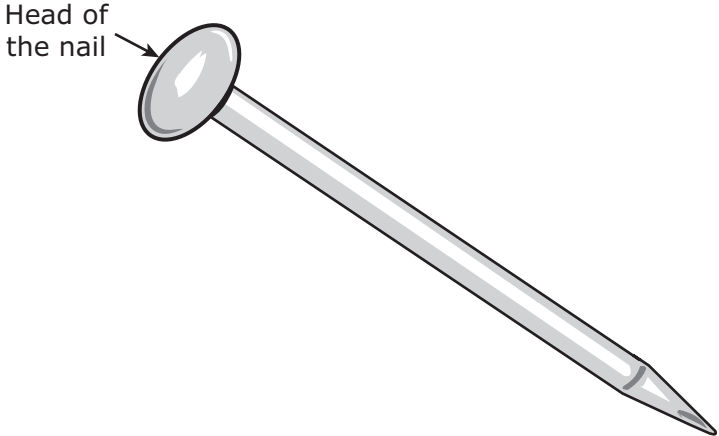
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14 The head of a nail is circular, as shown. The head of this nail has a diameter of 6 millimeters.



Which measurement is closest to the area of the head of this nail in square millimeters?

F 9.42 mm²

- 16 The table shows the number of bottles of different kinds of juice sold at a cafeteria on Monday.

Juice Sold

| Kind of Juice | Number of Bottles Sold |
|---------------|------------------------|
| Apple | 11 |
| Cranberry | 7 |
| Orange | 18 |
| Pineapple | 4 |

be cafeteria has

If the cafeteria has 80 customers on Tuesday, which prediction for Tuesday is NOT supported by the data in the table?

- F The number of bottles of orange juice sold is 18.

19 Phillip created the net worth statement shown.

Net Worth Statement

| Asset | Value |
|--------------------------|---------|
| Home () | 100,000 |
| Car | 20,000 |
| Bank Account | 10,000 |
| Investment Account | 10,000 |
| Total Assets | 140,000 |
| Liabilities | |
| Student Loan | 20,000 |
| Credit Card Debt | 10,000 |
| Total Liabilities | 30,000 |

Based on the information in the statement, what is Phillip's net worth?

- A \$14,500
- B \$41,500
- C -\$51,500
- D -\$41,500

20 Leon created a scale drawing of the school library in his art class. In the scale drawing, the length of the library is 13 inches. The length of the actual library is 5 feet.

Which scale did Leon use to create the scale drawing of the school library?

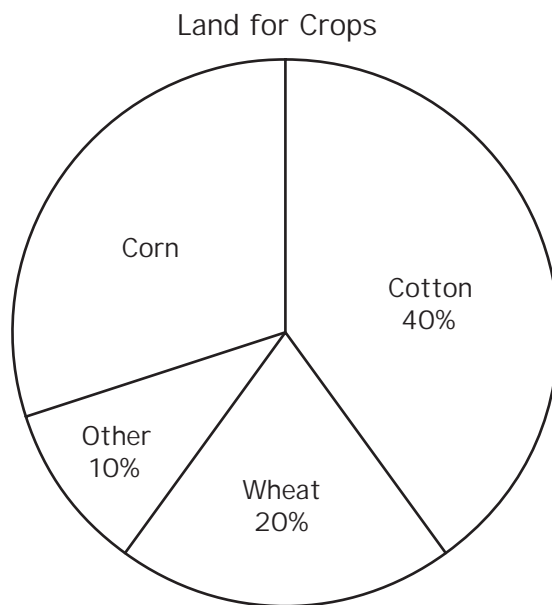
- F 1 inch represents 1 foot
- G 1 inch represents $\frac{1}{5}$ foot
- H 1 inch represents 1 foot
- J 1 inch represents $\frac{1}{13}$ foot

- 21** This week Andres will practice with his band for $1\frac{1}{2}$ hours on Monday, $1\frac{3}{4}$ hours on Tuesday, and 2 hours on Wednesday. Next week Andres will practice with his band for the same number of hours on Monday, Tuesday, and Wednesday.

What is the total number of hours Andres will practice with his band over these 6 days?

- A** $5\frac{1}{4}$ hours
- B** $10\frac{1}{2}$ hours
- C** $4\frac{1}{4}$ hours
- D** $8\frac{1}{2}$ hours

- 22 A farmer plants crops on 48 acres of land. The circle graph shows the percentages of land used for some of the different types of crops.



Based on the circle graph, how many acres of land are used for corn?

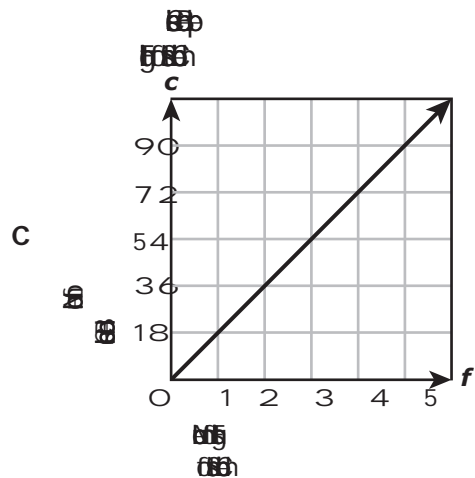
Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

23 Which answer choice represents a person burning 90 calories by climbing 18 flights of stairs?

A

| Number of flights of stairs | Calories burned |
|-----------------------------|-----------------|
| 1 | 5 |
| 3 | 15 |
| 5 | 25 |
| 7 | 35 |

B $C = 5f$, where C is the number of calories burned and f is the number of flights of stairs.



D A person burns 18 calories for every 5 flights of stairs.

29 A table is shown below.

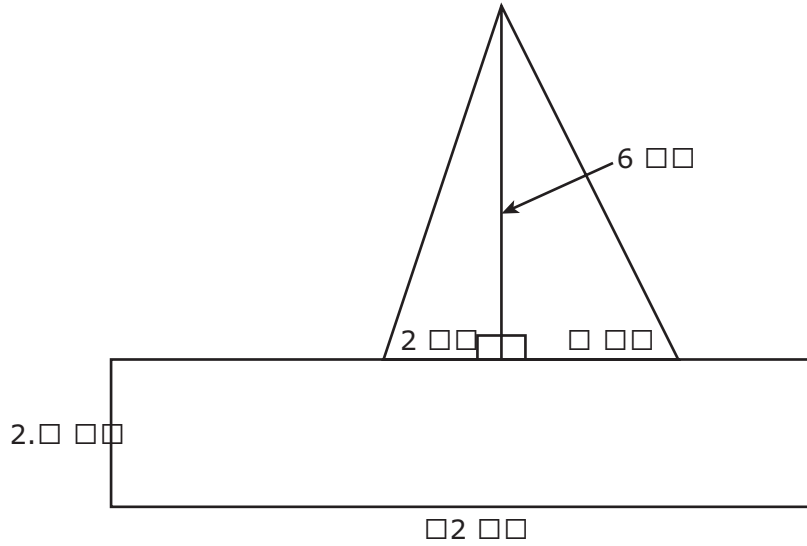
Table

| x | y |
|-----|-----|
| 8 | 0 |
| 2 | 0 |
| 0 | 6 |
| 0 | 0 |
| 6 | 0 |

Which of the following is a possible equation of the line that passes through the points $(8, 0)$ and $(0, 6)$?

- A $y = 3x + 6$
- B $y = -\frac{3}{4}x + 6$
- C $y = -\frac{3}{4}x + 3$
- D $y = -\frac{3}{4}x + 2$

30 A triangle with a base of 6 units and a height of 2 units is shown below. The triangle is placed on a rectangular base with a width of 2 units and a height of 2 units. The area of the triangle is $\frac{1}{2} \times \text{base} \times \text{height} = \frac{1}{2} \times 6 \times 2 = 6$ square units. The area of the rectangle is $\text{length} \times \text{width} = 6 \times 2 = 12$ square units. The area of the shaded region is the area of the rectangle minus the area of the triangle, which is $12 - 6 = 6$ square units.



Which of the following is the area of the shaded region?
 A 6 square units
 B 8 square units
 C 10 square units
 D 12 square units

31 The area of a square is 16 square units. The side length of the square is 4 units. The perimeter of the square is 16 units. The area of the square is 16 square units.

- A 8 in
- B 16 in
- C 20 in
- D 24 in

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- 38 A college conducted a survey of randomly selected freshmen about their choice of major. The table shows the results of the survey.

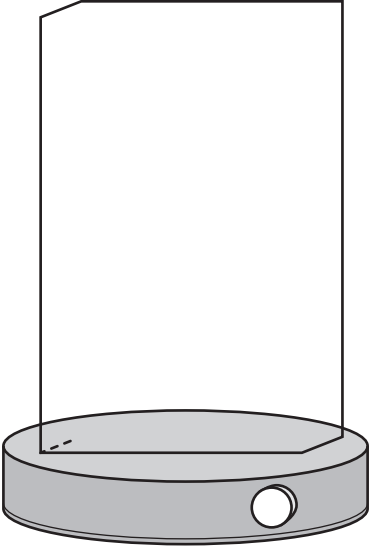
Freshmen Majors

| Major | Number of Freshmen |
|-------------|--------------------|
| English | 50 |
| Science | 35 |
| Engineering | 40 |
| Business | 45 |
| Education | 60 |
| Undecided | 50 |
| Other | 20 |

Which inference about all freshmen at this college is best supported by this information?

- F The number of freshmen who chose English as their major is less than the number of freshmen who are Undecided on their major.
- G The number of freshmen who chose Education as their major is greater than the number of freshmen who chose Science or Other as their major.
- H The number of freshmen who chose Business or Education as their major is less than the number of freshmen who chose Science or Engineering as their major.
- J The number of freshmen who chose Business as their major is greater than the number of freshmen who chose English as their major.

39 A ringtoss toy is composed of a rectangular prism on top of a cylinder. The rectangular prism is completely filled with water. The dimensions of the rectangular prism are shown in the diagram.



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