STAAR® Modified

State of Texas Assessments of Academic Readiness — Modified —

GRADE 7

Mathematics

Modified

Administered April 2014

RELEASED

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STAAR GRADE 7 MATHEMATICS REFERENCE MATERIALS

LENGTH

Customary	Metric
1 mile (mi) = 1,760 yards (yd)	1 kilometer (km) = 1,000 meters (m)
1 yard (yd) = 3 feet (ft)	1 meter (m) = 100 centimeters (cm)
1 foot (ft) = 12 inches (in.)	1 centimeter (cm) = 10 millimeters (mm)

VOLUME AND CAPACITY

Customary	Metric
1 gallon (gal) = 4 quarts (qt)	1 liter (L) = 1,000 milliliters (mL)
1 quart (qt) = 2 pints (pt)	
1 pint (pt) = 2 cups (c)	
1 cup (c) = 8 fluid ounces (fl oz)	

WEIGHT AND MASS

Customary	Metric
1 ton (T) = 2,000 pounds (lb)	1 kilogram (kg) = 1,000 grams (g)
1 pound (lb) = 16 ounces (oz)	1 gram (g) = 1,000 milligrams (mg)

TIME

1 year = 12 months

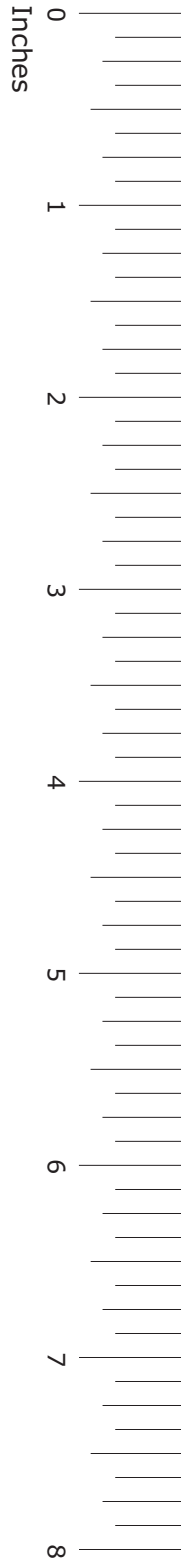
1 year = 52 weeks

1 week = 7 days

1 day = 24 hours

1 hour = 60 minutes

1 minute = 60 seconds



STAAR GRADE 7 MATHEMATICS REFERENCE MATERIALS

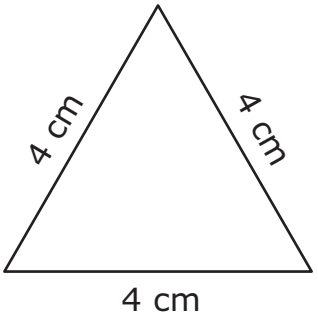
PERIMETER			
Rectangle			$P = 2l + 2w$
CIRCUMFERENCE			
Circle	$C = 2\pi r$	or	$C = \pi d$
AREA			
Triangle			$A = \frac{1}{2}bh$
Rectangle			$A = bh$
Parallelogram			$A = bh$
Trapezoid			$A = \frac{1}{2}(b_1 + b_2)h$
Circle			$A = \pi r^2$
VOLUME			
Triangular prism			$V = Bh$
Rectangular prism			$V = Bh$
Cylinder	$V = \pi r^2 h$	or	$V = Bh$
ADDITIONAL INFORMATION			
Pi	$\pi \approx 3.14$	or	$\pi \approx \frac{22}{7}$

MATHEMATICS

DIRECTIONS

Read each question. For a multiple-choice question, choose the best answer from the three choices provided and fill it in on your answer document. For a griddable question, fill in your answer in the grid on the answer document.

1 Look at the triangle below. The side lengths are given in centimeters (cm).



Which of these describes the triangle?

A Scalene

B Right

C Equilateral

GO ON

2 In a random survey 18 of 40 people knew which team won the Super Bowl last year. What percent of the people surveyed knew which team won?

F 22%

G 45%

H 58%

---

3 The list below shows the age of each person in Chin's family.

5, 11, 11, 13, 42, 44

What is the median age in Chin's family?

A 12

B 21

C 24

GO ON

4 Antonio measured the lengths of three items on a desk. The table below shows the length of each item in inches.

Item Lengths

Item	Length (inches)
Eraser	0.75
Staple	$\frac{1}{4}$
Paper clip	$\frac{7}{8}$

According to the table, which item has the greatest length?

F Eraser

G Staple

H Paper clip

GO ON

5 Lorena is reading a map. The scale on the map shows that 1 inch represents 100 miles. What is the number of miles represented by $3\frac{1}{4}$ inches on this map?

A 400 miles

B 33 miles

C 325 miles

---

6 A list contains 3 numbers.

- The first number is twice the second number.
- The second number is $\frac{1}{3}$ of the third number.
- The third number is 2 more than the first number.

Which of these could be the list of 3 numbers?

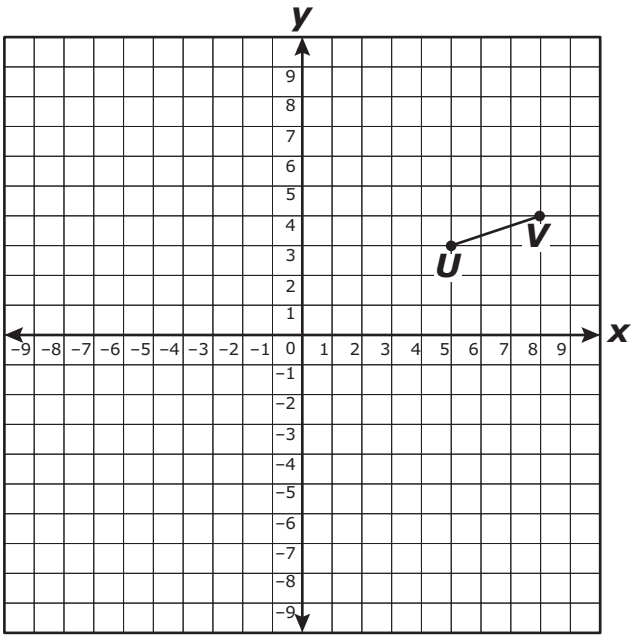
F 5, 10, 7

G 4, 2, 6

H 6, 3, 9

GO ON

7 Look at line segment *UV* on the grid below.



If line segment *UV* is reflected across the *y*-axis, which ordered pair represents the reflection of point *U*?

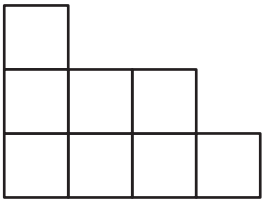
A $(-5, 3)$

B $(-4, 8)$

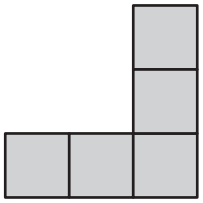
C $(3, -5)$

GO ON

9 The front and right-side views of a three-dimensional figure are shown below.



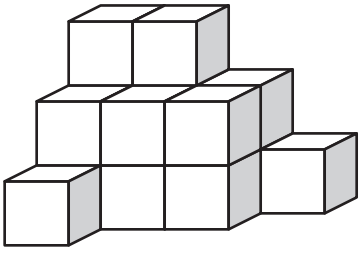
Front view



Right-side view

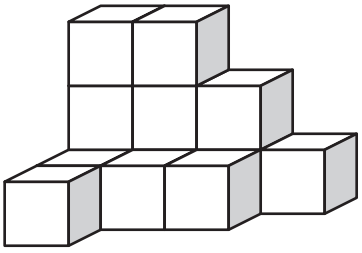
Which figure can be represented by the views above?

A



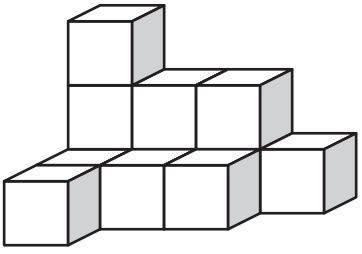
Front

B



Front

C



Front

GO ON

10 Samantha drove 165 miles in 3 hours without making any stops. What was her average driving speed in miles per hour?

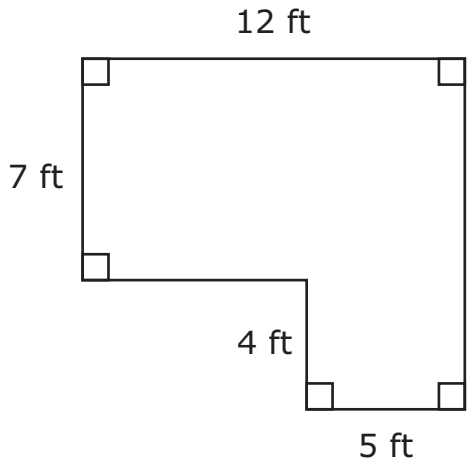
You may practice recording your answer in the grid below.

			.
⓪	⓪	⓪	
①	①	①	
②	②	②	
③	③	③	
④	④	④	
⑤	⑤	⑤	
⑥	⑥	⑥	
⑦	⑦	⑦	
⑧	⑧	⑧	
⑨	⑨	⑨	

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

GO ON

11 The dimensions of a floor in feet (ft) are shown below.



$A = bh$
Area of a rectangle = base · height

What is the area of this floor?

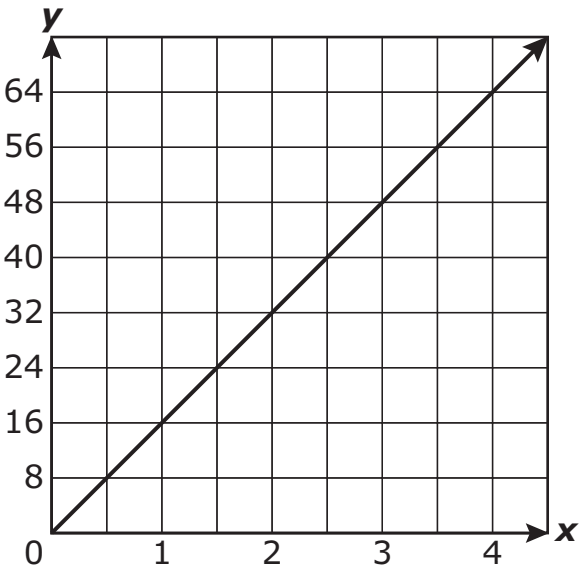
A 46 square feet

B 104 square feet

C 132 square feet

GO ON

12 Which relationship is best represented by the graph below?



F The number of hours in a day

G The number of cups in a gallon

H The number of inches in a foot

GO ON

13 Juanita bought concert tickets.

- She bought 8 tickets.
- The tickets cost between $25 and $45 each.

Which of these could be the total cost of these tickets?

A $280

B $400

C $160

---

14 Alan bought two books.

- The cost of the first book can be represented by f.
- The cost of the second book was $11.
- The total cost of the books was $20.

Which equation represents this situation?

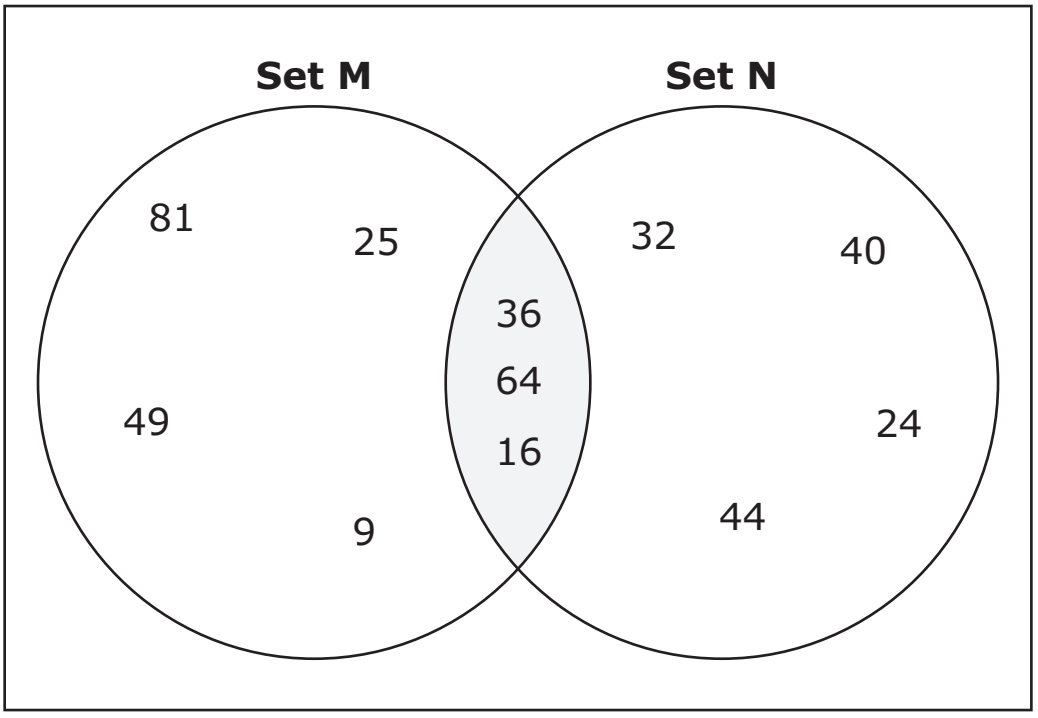
F $f \cdot 11 = 20$

G $f + 20 = 11$

H $f + 11 = 20$

GO ON

15 Look at the Venn diagram below. It shows how Set M and Set N are related.



Which statement describes the numbers that are in both Set M and Set N?

A They are all multiples of 8.

B They are all perfect squares and multiples of 4.

C They are all multiples of 6.

GO ON

16 A party store rents and sells supplies.

- The store rents helium tanks to fill balloons for $60.
- The store sells 4 balloons for $1.

A customer paid $70 to rent a tank and buy balloons. How many balloons did the customer buy?

F 240

G 520

H 40

---

17 Angle *K* and angle *M* are supplementary angles. The measure of angle *K* is 132°. What is the measure of angle *M*?

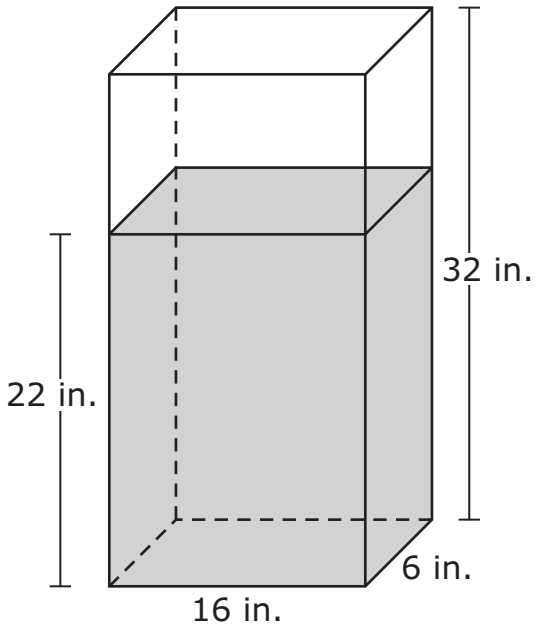
A 48°

B 42°

C 58°

GO ON

18 Look at the container below. It is in the shape of a rectangular prism. The container is filled with water to a height of 22 inches (in.).



$V = Bh$
Volume of a rectangular prism = length · width · height

What is the volume of the water in this container?

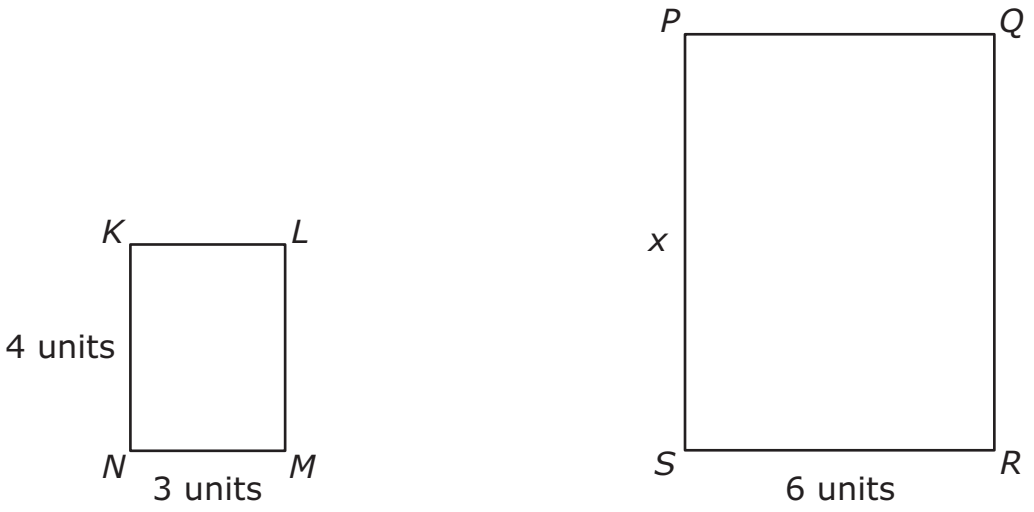
F 960 cubic inches

G 484 cubic inches

H 2,112 cubic inches

GO ON

19 Quadrilateral *KLMN* is similar to quadrilateral *PQRS*.



Which proportion can be used to find the value of x in units?

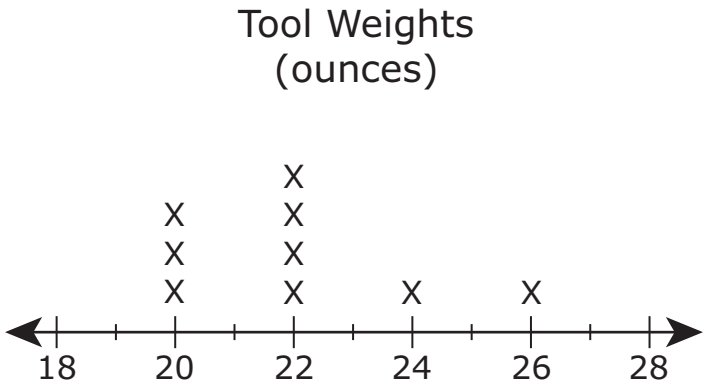
A $\frac{4}{3} = \frac{6}{x}$

B $\frac{3}{7} = \frac{6}{x}$

C $\frac{3}{4} = \frac{6}{x}$

GO ON

20 A carpenter recorded the weights of 9 tools in a workshop. The results are shown in the line plot below.



Which measure of data should the carpenter use to determine the most common weight of these 9 tools?

F Mode

G Range

H Mean

GO ON

21 Look at the table below. It shows a sequence where n represents the position of a term.

	1	2	3	4	n
	3	6	9	12	?

Which expression can be used to find the value of the nth term?

A $n + 3$

B $3n$

C $n + 4$

GO ON

22 Ryan, Samir, and Teresa collected cans of food for a food drive.

- Ryan collected 30 cans.
- Samir collected 3 times as many cans as Ryan did.
- Teresa collected 6 more cans than Samir did.

How many cans did Teresa collect?

F 84, because $30 \cdot 3 = 90$ and $90 - 6 = 84$

G 16, because $30 \div 3 = 10$ and $10 + 6 = 16$

H 96, because $30 \cdot 3 = 90$ and $90 + 6 = 96$

---

23 Which situation is represented by the equation $7t + 3 = 31$?

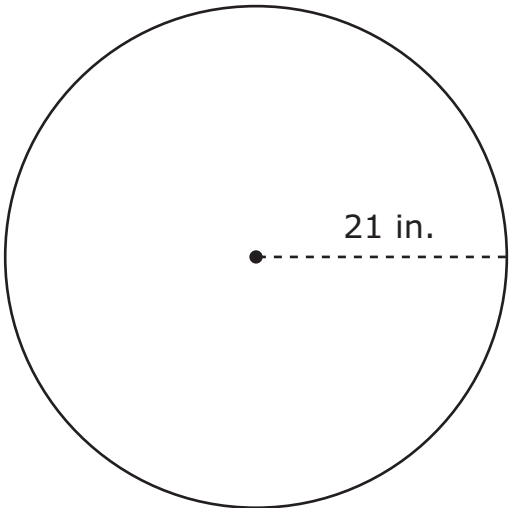
A Alex spent \$31 at a movie theater. He bought 7 tickets. How much did each ticket, t, cost?

B Alex spent \$31 at a movie theater. He bought one ticket and spent \$3 each to buy 7 drinks. How much did the ticket, t, cost?

C Alex spent \$31 at a movie theater. He bought t tickets for \$7 each and one drink for \$3. How many tickets did Alex buy?

GO ON

24 A circular mirror is shown below. It has a radius of 21 inches (in.).



$A = \pi r^2$
Area of a circle = $\pi \cdot$ radius $\cdot$ radius

Which value is closest to the area of the mirror?

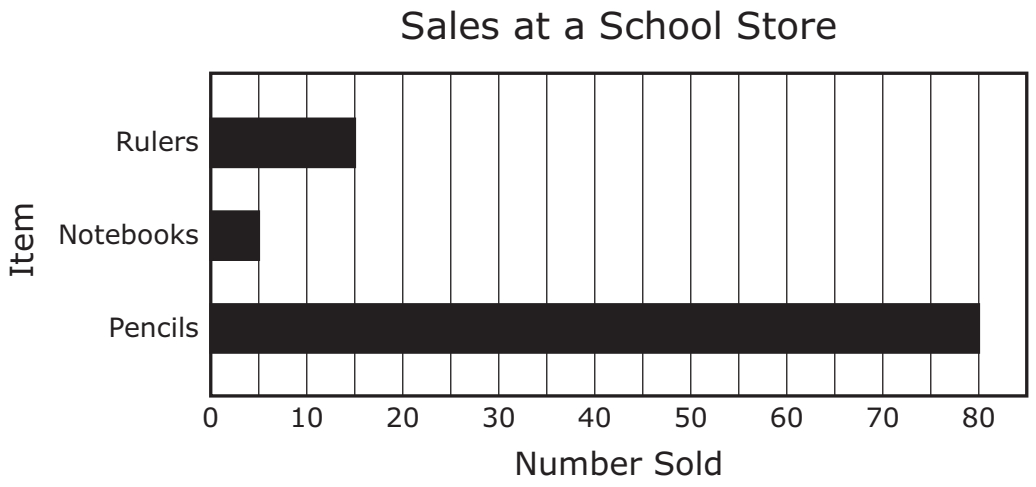
F 132 in.^{2}

G 1,385 in.^{2}

H 4,348 in.^{2}

GO ON

25 Look at the graph below. It shows the number of items sold at a school store last week.



Which statement is supported by the graph?

A The number of pencils sold was $\frac{3}{4}$ the total number of items sold.

B The total number of notebooks and pencils sold was 20.

C The total number of rulers, notebooks, and pencils sold was 100.

GO ON

26 What is the value of the expression below?

$$4^2 \div 2 + 4$$

F 12

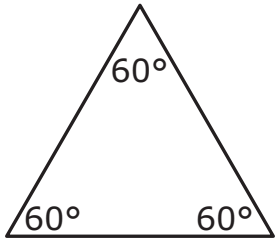
G 8

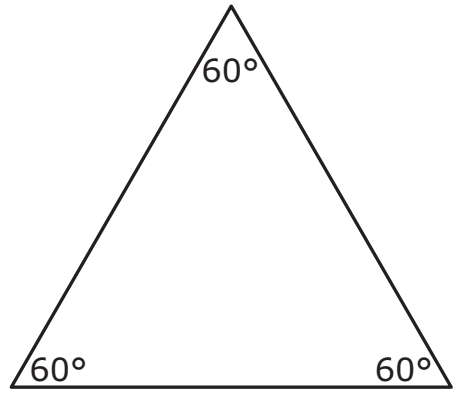
H 36

GO ON

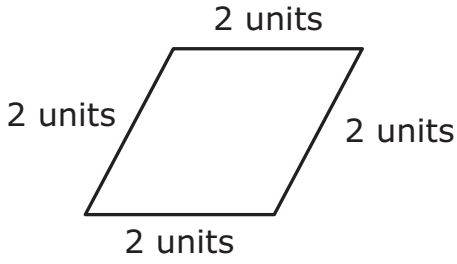
27 Which of these represents a pair of similar polygons?

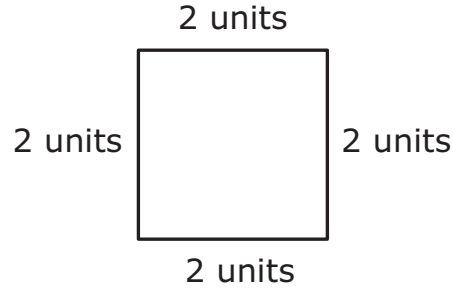
A



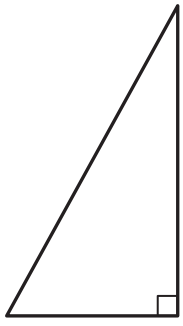


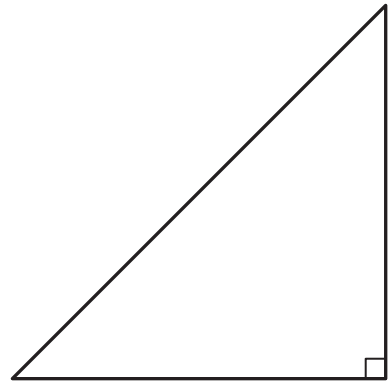
B





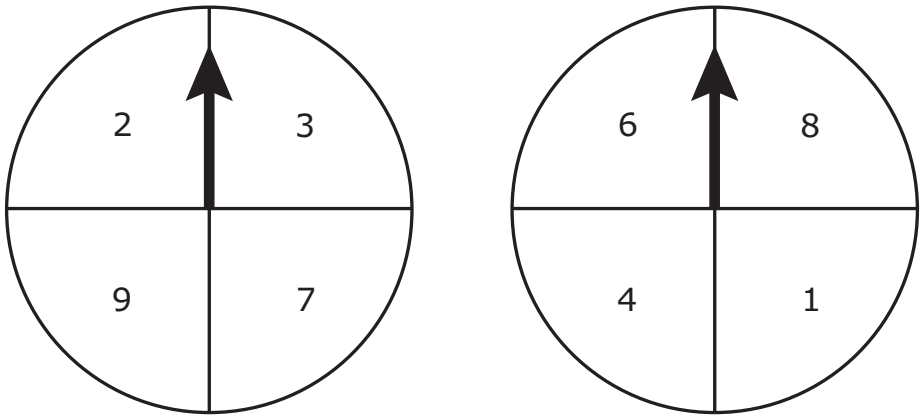
C





GO ON

28 Martin is playing a game using the two spinners below.



He spins each spinner once and adds the numbers the arrows land on. Which list shows only the possible outcomes of two numbers that will give Martin a sum of 10?

F 9 and 1, 2 and 8, 7 and 4

G 9 and 1, 2 and 8

H 9 and 1, 2 and 8, 7 and 3, 4 and 6

GO ON

29 Look at the table below. It shows the prices for washing vehicles at a car wash.

Car Wash

Car	$12
Van	$15

What is one way to find the price in dollars of washing 20 cars and 16 vans?

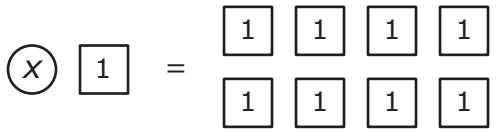
A Add 20 and 12, add 16 and 15, and then multiply the sums

B Multiply 20 by 12, multiply 16 by 15, and then add the products

C Multiply 20 by 16, multiply 12 by 15, and then add the products

GO ON

30 The model below represents the equation $x + 1 = 8$.



What value of x makes this equation true?

F $x = 7$

G $x = 9$

H $x = -7$

---

31 Mr. Harris wants to put bricks around the circumference of a garden shaped like a circle. The diameter of the garden is 7.8 meters.

$$C = \pi d$$
Circumference of a circle $= \pi \cdot$ diameter

Which value is closest to the circumference of the garden?

A 64 meters

B 12 meters

C 24 meters

GO ON

32 A triangle has an area of 36 square centimeters and a height of 4 centimeters. Which equation can be used to find b, the length of the base of the triangle in centimeters?

F $36 = (b)(4)$

G $36 = \frac{(b)(4)}{2}$

H $36 = \frac{(b \cdot 4)^2}{2}$

GO ON

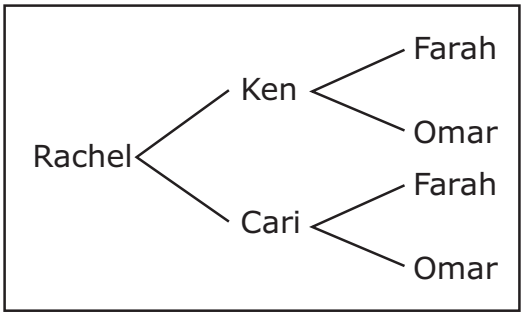
33 Look at the table below. It shows the names of the student council members in each grade at a middle school.

Student Council

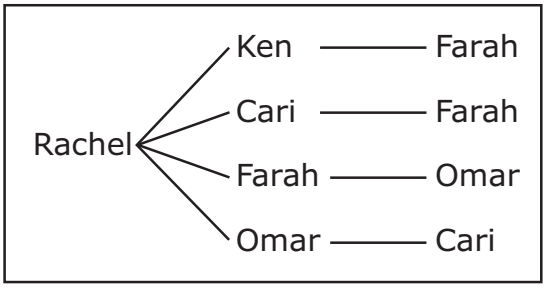
Rachel	Ken Cari	Farah Omar

Which diagram shows all the possible outcomes of one student council member from each grade who can attend a meeting?

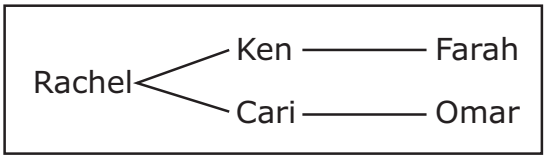
A



B

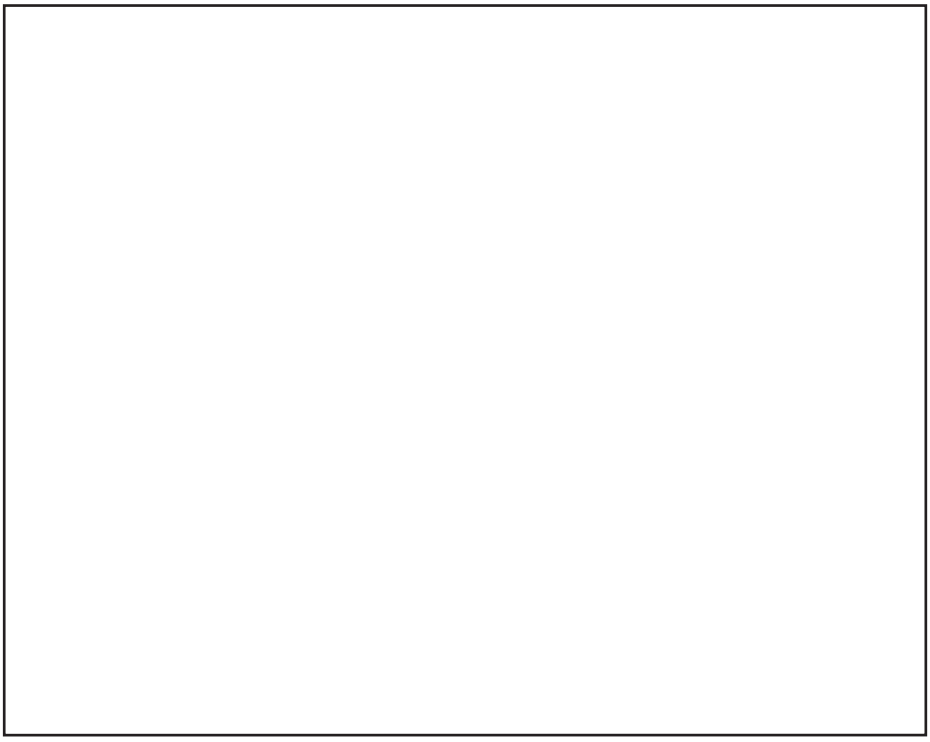


C



GO ON

34 Look at the figure below. It is a scale drawing of the floor of a library. Find the ruler marked in inches on the reference materials. Measure the side lengths of this figure to the nearest inch.



In the scale drawing, 1 inch represents 4 feet. Which of these is closest to the perimeter of the library's actual floor in feet?

F 36 feet

G 72 feet

H 18 feet

GO ON

35 Nick can run 600 yards in 2 minutes. At this rate, how many yards can he run in 12 minutes?

A 100 yards

B 6,000 yards

C 3,600 yards

---

36 All the items at a store were on sale for 60% of the original price. Which fraction is equivalent to 60%?

F $\frac{3}{50}$

G $\frac{3}{5}$

H $\frac{1}{6}$

GO ON

37 A jar in the shape of a cylinder has a radius of 3 inches and a height of 10 inches.

$$V = \pi r^2 h$$

Volume of a cylinder = π · radius · radius · height

Which of these is closest to the volume of the jar?

A 1,130 cubic inches

B 280 cubic inches

C 188 cubic inches

GO ON

38 A school band needs money for a trip.

- They have $600.
- This is 50% of the total amount of money they need.

What is the total amount of money the band needs for the trip?

F $300

G $900

H $1,200

---

39 Josh rides the school bus each day. He rides for 0.75 hour in the morning and 0.6 hour in the afternoon. How many hours does he spend riding the school bus in 5 days?

A 6.75 hours

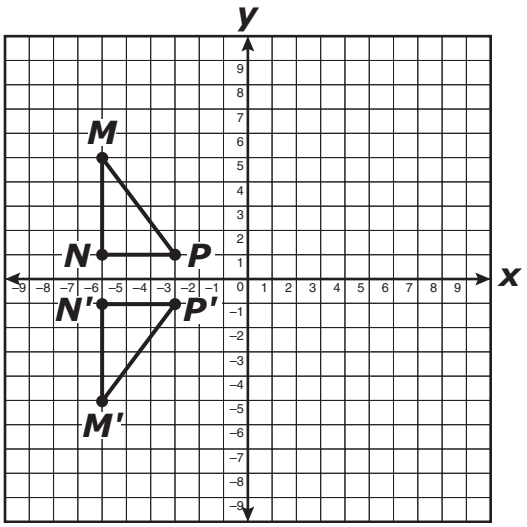
B 1.35 hours

C 6.35 hours

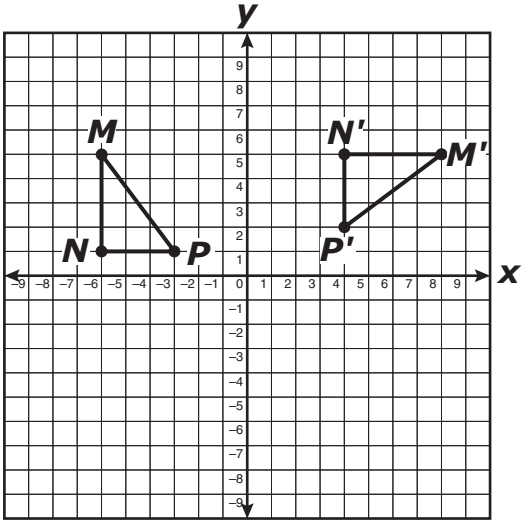
GO ON

40 Which grid shows only a translation of ΔMNP to form $\Delta M'N'P'$?

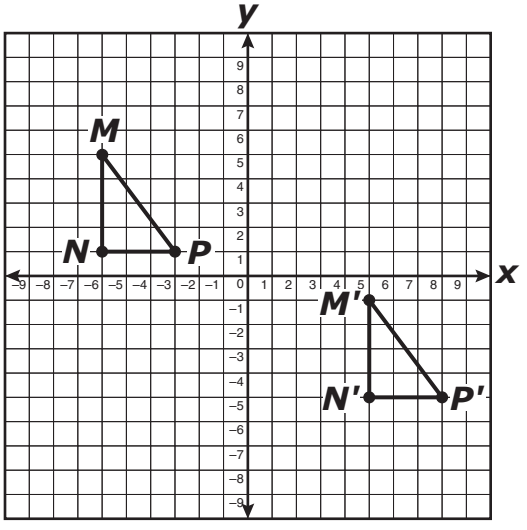
F



G



H



GO ON

41 Felix walks dogs to earn money.

- Yesterday he earned $60.
- He earned $5 per dog.
- He walked n dogs.

Which equation represents this situation?

A $\frac{n}{5} = 60$

B $5n = 60$

C $n - 5 = 60$

---

42 The monthly rent for an apartment at 3 different buildings was $525, $670, and $600. Which measure of the data can be used to describe the difference between the most expensive and least expensive monthly rent?

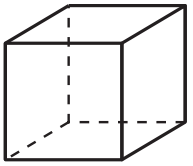
F Mean

G Median

H Range

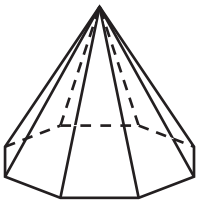
GO ON

43 Look at the cube below.

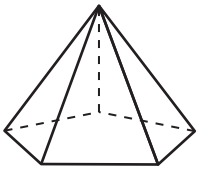


Which figure has more vertices than a cube?

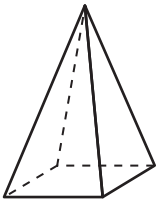
A



B



C



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

STOP

STAAR MODIFIED
GRADE 7
Mathematics
April 2014

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