STAAR®

State of Texas Assessments of Academic Readiness

GRADE 3
Mathematics

Administered May 2018

RELEASED

STAAR GRADE 3 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

Inches
0
1
2
3
4
5
6
7
8

STAAR GRADE 3 MATHEMATICS REFERENCE MATERIALS

Centimeters

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

This page shows only
the metric ruler.

MATHEMATICS

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.
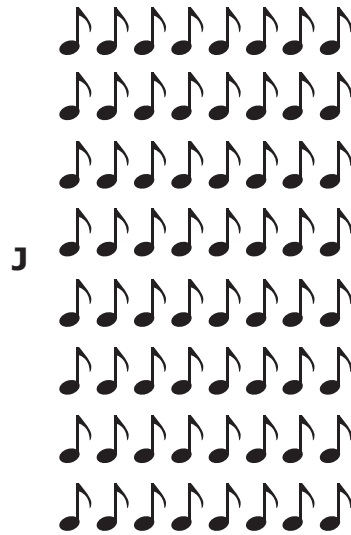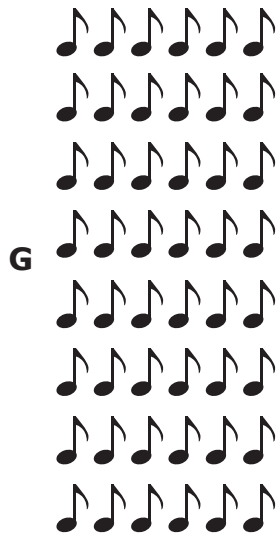
1 Nina works for a restaurant. The restaurant pays her every week for the work she does. Some weeks she works more hours than other weeks.

Which statement is most likely true?

A When Nina works fewer hours, she earns more income from the restaurant.

B When Nina works more hours, she earns more income from the restaurant.

C When Nina works more hours, the restaurant gets less labor from her.

D When Nina works fewer hours, the restaurant gets more labor from her.

2 A band plays 8 songs at every show. Last year the band had 8 shows.

Which model can be used to find the number of songs the band played at shows last year?

F

G

H

J

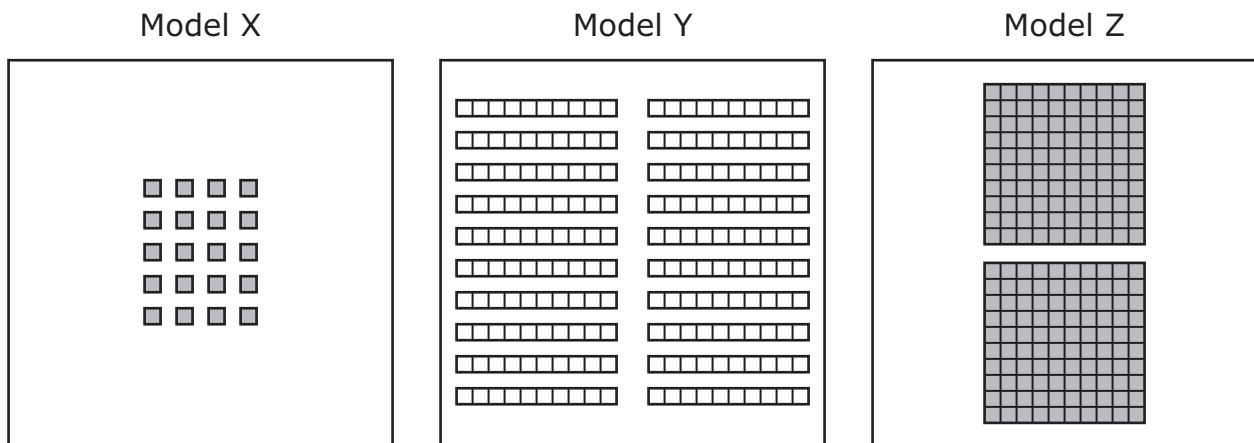**3** Gretchen made this table to show the side lengths and perimeters of three figures.

Gretchen's Figures

Figure	Side Lengths (yards)	Perimeter (yards)
Square	6, 6, 6, 6	24
Triangle	4, 7, 8	19
Rectangle	4, 8, 4, 8	32

What mistake, if any, did Gretchen make?

A The perimeter of the rectangle should be 24 yards.

B The perimeter of the square should be 36 yards.

C The perimeter of the triangle should be 20 yards.

D Gretchen did not make any mistakes in the table.

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4 Which of these models represent the same number?

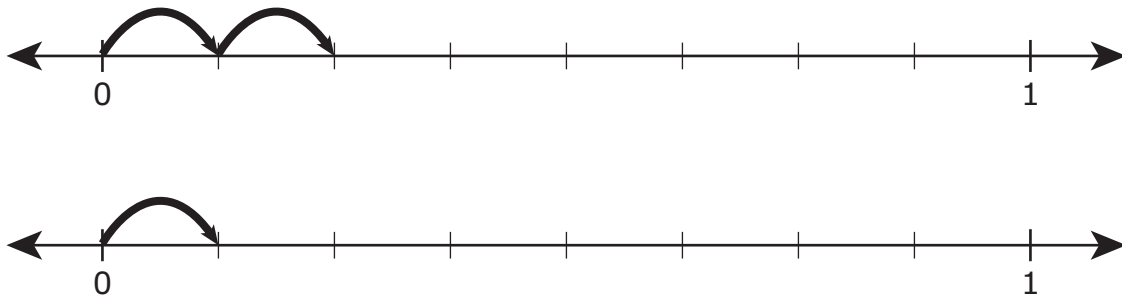| Model X	Model Y	Model Z

F Model X and Model Y, because 20 ones is equivalent to 20 tens.

G Model X and Model Z, because 20 ones is equivalent to 2 hundreds.

H Model Y and Model Z, because 20 tens is equivalent to 2 hundreds.

J None of these

GO ON

5 Lin has a total of 36 sodas in packs. There are 6 sodas in each pack. How many packs of sodas does Lin have?

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

---

6 The number lines model two different fractions.

Which comparison of these fractions is true?

F $\dfrac{1}{2} > \dfrac{1}{1}$

G $\dfrac{2}{8} > \dfrac{1}{8}$

H $\dfrac{1}{8} = \dfrac{2}{8}$

J $\dfrac{2}{8} < \dfrac{1}{8}$

GO ON

7 The table shows the relationship between the number of toy airplanes made in a factory and the number of batteries needed for the airplanes.
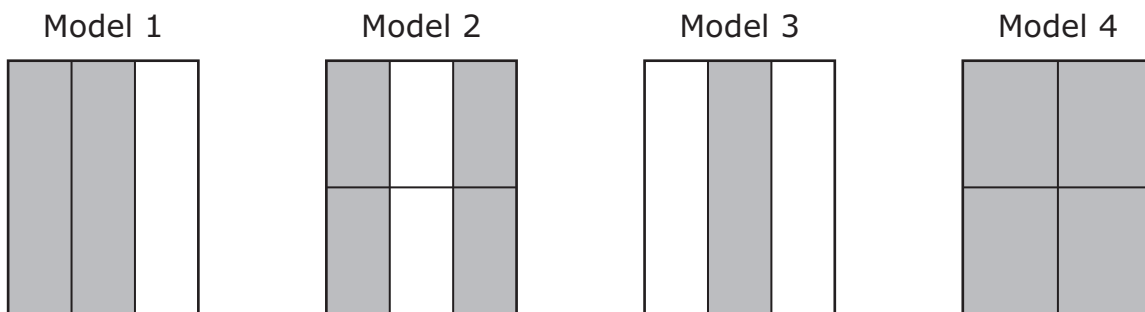
Batteries for Toy Airplanes

Number of Toy Airplanes	5	7	9	11	13	15
Number of Batteries	15	21	27	33	39	45

Based on the relationship shown in the table, which statement is true?

A The number of batteries is equal to the number of toy airplanes times 3.

B The number of batteries is equal to the number of toy airplanes times 2.

C The number of batteries is equal to the number of toy airplanes times 6.

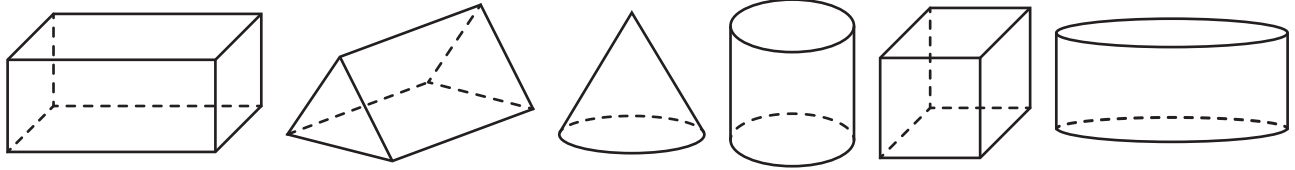**D** The number of batteries is equal to the number of toy airplanes times 5.

---

8 Four fraction models are shown.

Model 1　　　　Model 2　　　　Model 3　　　　Model 4

Which two models are shaded to show equivalent fractions?

F Models 1 and 2

G Models 1 and 3

H Models 2 and 4

J Models 2 and 3

9 The figures shown can be sorted into groups.

Which list shows a correct way to group the figures?

A 2 prisms, 1 cone, 2 cylinders, and 1 pyramid

B 3 prisms, 1 cone, and 2 cylinders

C 2 prisms, 2 cylinders, 1 sphere, and 1 cube

D 3 prisms, 1 cylinder, and 2 cones

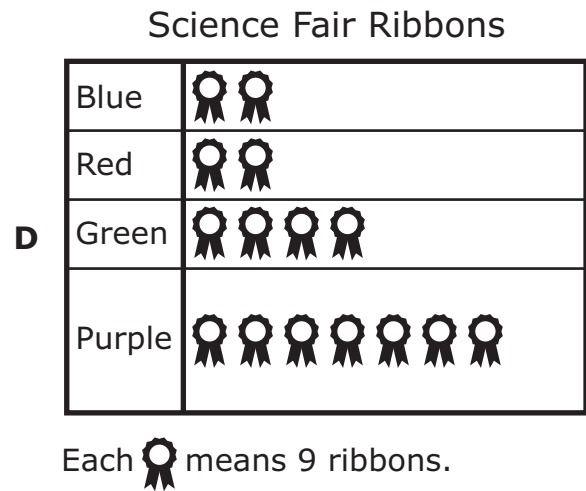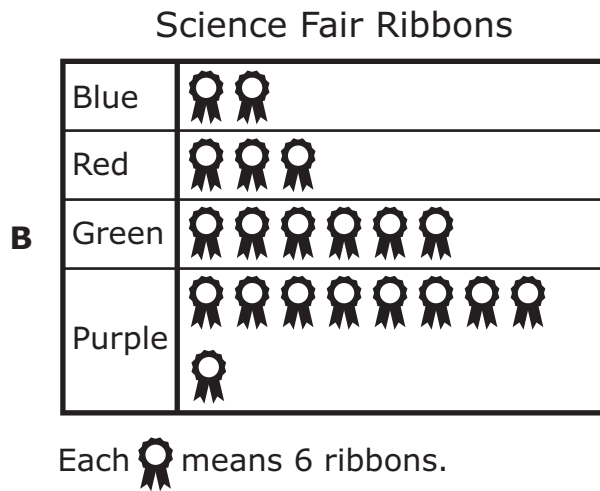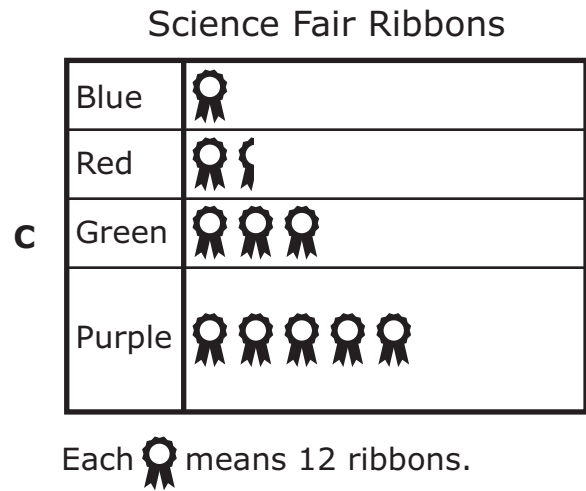**10** What number goes in the ☐ to make the equation true?
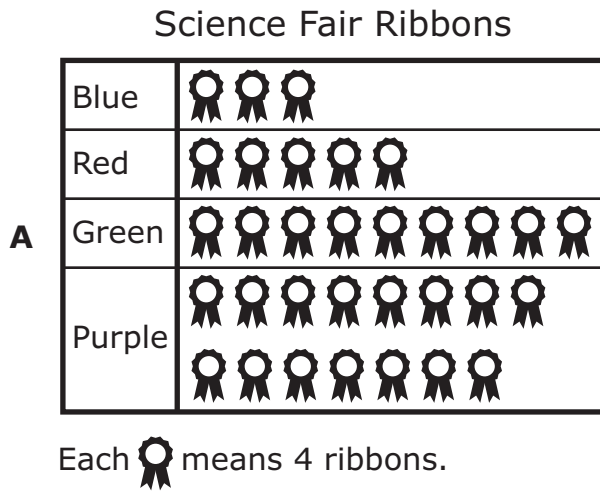
$$\boxed{} \div 11 = 9$$

F 99

G 91

H 20

J 2

11 The list shows the number of ribbons of each color that a school ordered for a science fair.

- 12 blue
- 18 red
- 36 green
- 60 purple

Which pictograph best represents the information in the list?

A

Science Fair Ribbons

Blue	🎗🎗🎗
Red	🎗🎗🎗🎗🎗
Green	🎗🎗🎗🎗🎗🎗🎗🎗🎗
Purple	🎗🎗🎗🎗🎗🎗🎗🎗 🎗🎗🎗🎗🎗🎗🎗

Each 🎗 means 4 ribbons.

C

Science Fair Ribbons

Blue	🎗
Red	🎗🎗
Green	🎗🎗🎗
Purple	🎗🎗🎗🎗🎗

Each 🎗 means 12 ribbons.

B

Science Fair Ribbons

Blue	🎗🎗
Red	🎗🎗🎗
Green	🎗🎗🎗🎗🎗🎗
Purple	🎗🎗🎗🎗🎗🎗🎗🎗 🎗

Each 🎗 means 6 ribbons.

D

Science Fair Ribbons

Blue	🎗🎗
Red	🎗🎗
Green	🎗🎗🎗🎗
Purple	🎗🎗🎗🎗🎗🎗🎗

Each 🎗 means 9 ribbons.

12 Tyrese had 572 baseball cards. He sold some of the baseball cards and then had 98 baseball cards left.

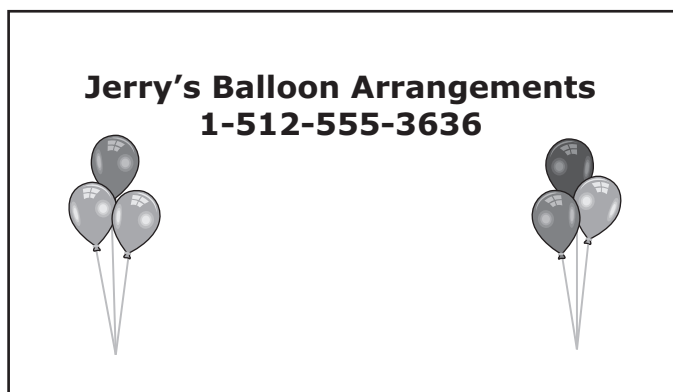Which equation could NOT be used to find the number of baseball cards Tyrese sold?

F $572 - \boxed{} = 98$

G $572 - 98 = \boxed{}$

H $98 + \boxed{} = 572$

J $98 + 572 = \boxed{}$

---

13 A rectangular business card is shown. Use the ruler provided to measure the length and width of the business card to the nearest centimeter.
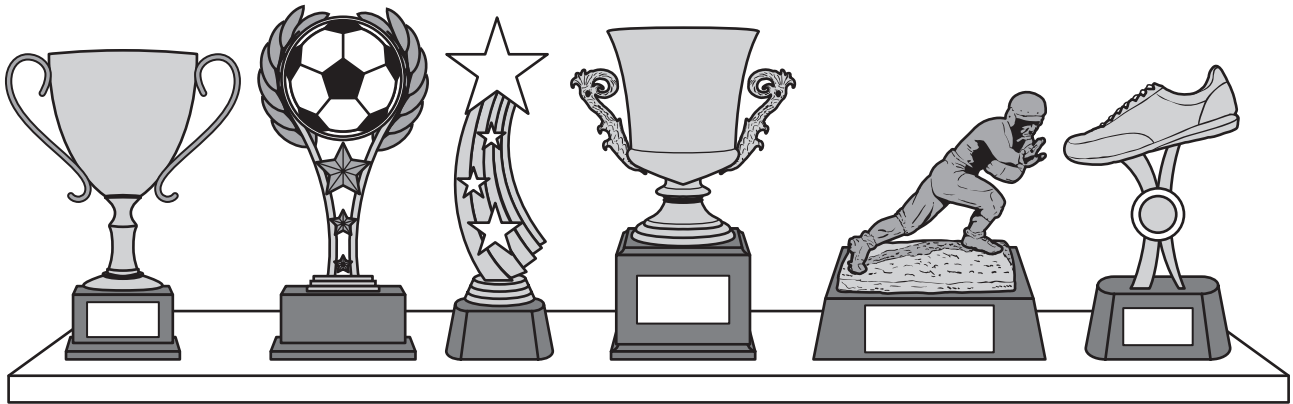
Jerry's Balloon Arrangements
1-512-555-3636

Which measurement is closest to the perimeter of the business card in centimeters?

A 14 cm

B 28 cm

C 45 cm

D 32 cm

14 There are 297 peach trees on a farm. There are 615 peach trees on a different farm. What is the difference between the numbers of peach trees on these farms?

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

---

15 The picture represents the trophies 3 brothers have on a shelf. Each brother won the same number of trophies.

What fraction of the trophies did each brother win?

A $\frac{2}{3}$

B $\frac{2}{6}$

C $\frac{3}{6}$

D $\frac{3}{3}$

16 A group of 64 children and 24 adults will travel to a zoo in vans. There will be 8 people in each van.

How many vans will be needed to take the group to the zoo?

F 11

G 80

H 8

J 5

---

17 A container of liquid laundry detergent at a grocery store is marked with the volume of detergent inside. Which unit of measurement could be marked on the container?

A Kilograms

B Meters

C Pounds

D Liters

18 A store is having a sale on books. The sale price of each book is $6 less than the regular price. Which table shows prices of different books at this store?

F

Book Sale

Regular Price	$12	$19	$26	$33
Sale Price	$18	$25	$32	$39

G

Book Sale

Regular Price	$18	$25	$32	$39
Sale Price	$12	$19	$26	$33

H

Book Sale

Regular Price	$36	$30	$24	$18
Sale Price	$34	$28	$22	$16

J

Book Sale

Regular Price	$36	$30	$24	$18
Sale Price	$6	$5	$4	$3

GO ON

19 Dominique put figures into groups based on certain attributes. Sometimes she put figures into more than one group.

Dominique's Figures

Group	Attribute
1	Has all sides congruent
2	Has exactly 4 sides
3	Is a polygon

Which statement is true?

A A square could be put into all the groups.

B A triangle could be put into all the groups.

C A rectangle could be put into Groups 1 and 2 only.

D A pentagon could be put into Group 1 only.

---

20 Hakeem received 13 phone calls on Tuesday. This expression can be used to show the number of phone calls he received on Saturday.

$$13 \times 4$$

Which statement is true?

F Hakeem received 4 more phone calls on Saturday than he received on Tuesday.

G Hakeem received 4 more phone calls on Tuesday than he received on Saturday.

H Hakeem received 4 times as many phone calls on Saturday as he received on Tuesday.

J Hakeem received 4 times as many phone calls on Tuesday as he received on Saturday.
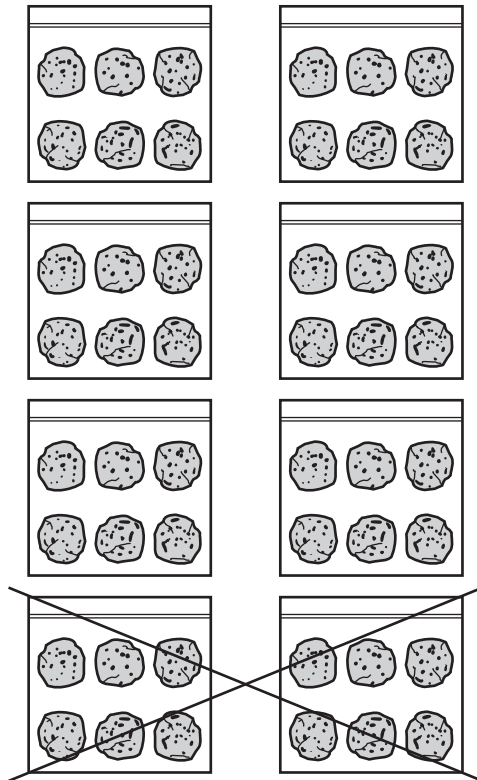
21 The expanded notation of a number is shown.

$$(9 \times 10{,}000) + (4 \times 100) + (1 \times 10)$$

What is the standard form of this number?

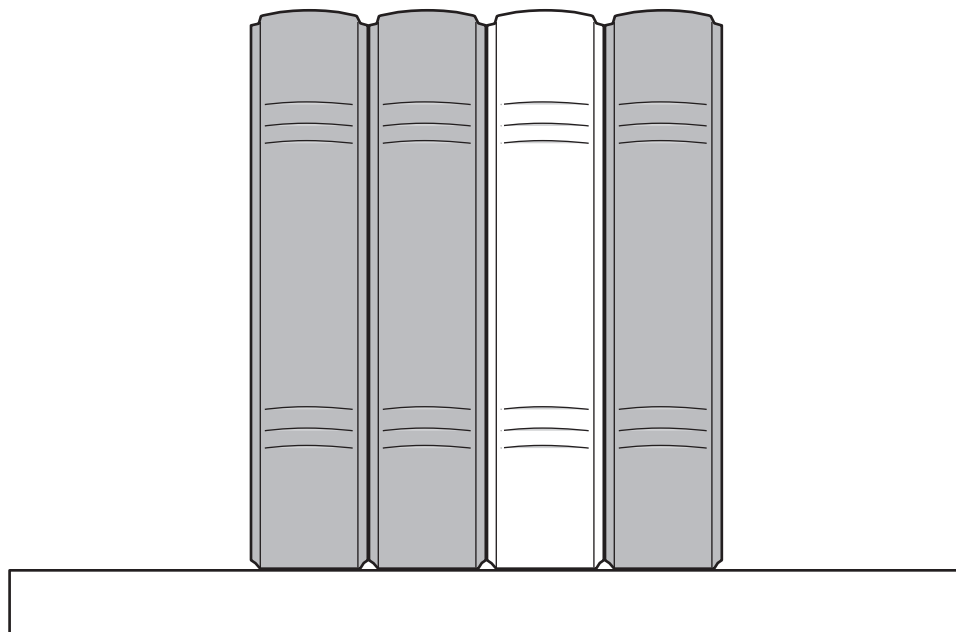**A** 9,410

B 94,010

C 90,401

D 90,410

22 Noah has 48 cookies. The model represents what he did with the cookies.

Based on the model, which of these could explain what Noah did with the cookies?

F He put $(48 \div 8)$ cookies into each of 8 bags and ate (2×6) of the cookies.

G He put $(48 \div 6)$ cookies into each of 8 bags and ate (2×8) of the cookies.

H He put $(48 - 6)$ cookies into each of 8 bags and ate (2×6) of the cookies.

J He put (48×6) cookies into each of 8 bags and ate $(2 + 6)$ of the cookies.

23 There are 4 books on a shelf. In the model the shaded books represent nonfiction books.

Which expression represents the fraction of the books on the shelf that are nonfiction?

A $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$

B $\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$

C $\frac{1}{3} + \frac{1}{3} + \frac{1}{3}$

D $\frac{3}{1} + \frac{3}{1} + \frac{3}{1}$

24 The frequency table shows the number of points scored by each player on a basketball team during a game.

Points Scored

Player	Tally
Stephen	卌 卌 IIII
Alfred	IIII
Kenji	卌 卌 II
Pete	卌 III
Eric	卌 卌 II
Wesley	卌 I
Hayes	卌 卌

What is the combined number of points scored by Stephen, Alfred, Pete, and Wesley?

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

25 The model shown can represent two number sentences.

★ ★ ★
★ ★ ★

Which two number sentences can the model represent?

A $3 \times 3 =$ ☐

    $3 + 3 =$ ☐

B $3 \times 2 =$ ☐

    $3 + 3 =$ ☐
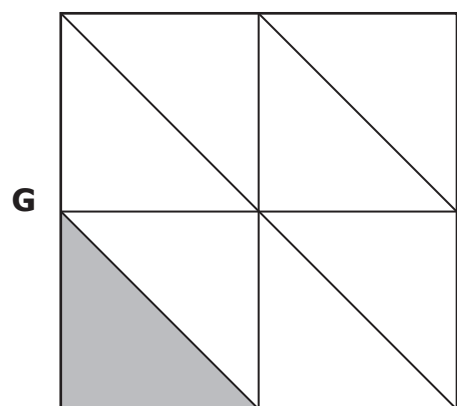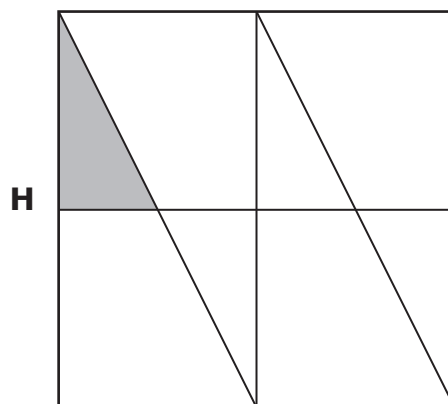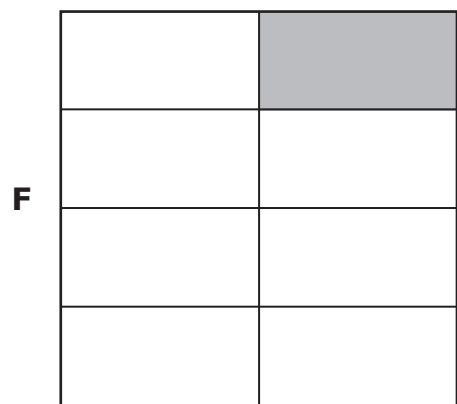
C $2 \times 3 =$ ☐

    $2 \times 2 \times 2 =$ ☐

D $3 + 3 + 3 =$ ☐

    $2 + 2 + 2 =$ ☐

26 Kailani drew four congruent squares. She shaded the same fraction of each square. This is one of Kailani's squares.

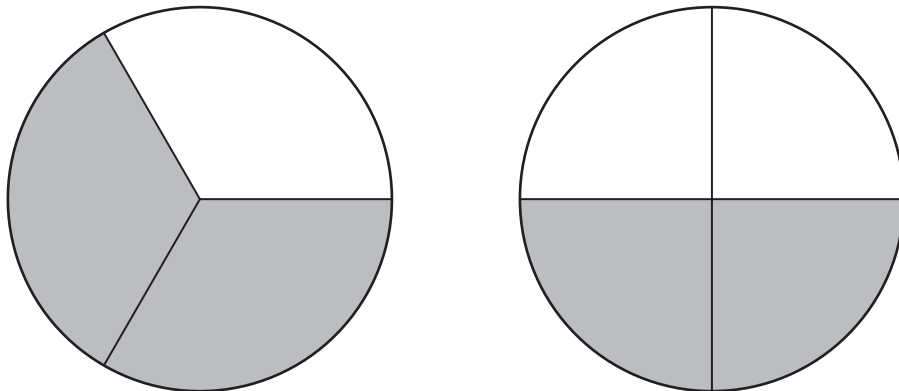Which square CANNOT be another one of Kailani's squares?

F

G

H

J

27 Elisha listed the amounts she paid for guitar lessons for three months.

- February: $78
- March: $90
- April: $156

What is the amount Elisha paid for guitar lessons for these three months?

A $314

B $324

C $114

D $325

---

28 The models shown are the same size and are each divided into equal-size parts. The models are shaded to represent two fractions.
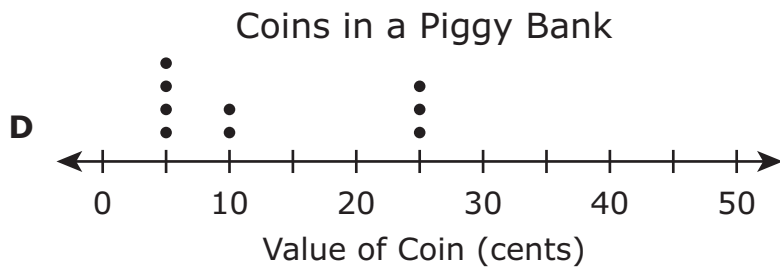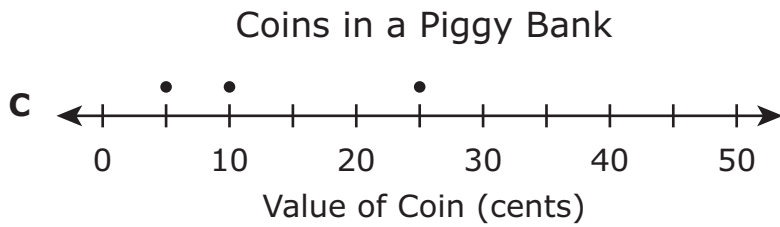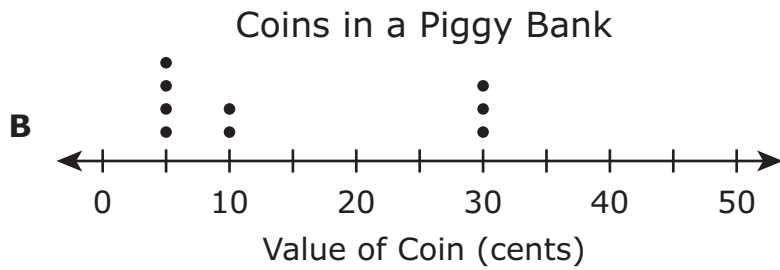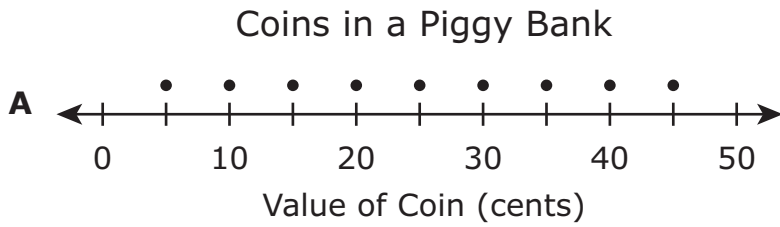

Which statement is true?

F $\frac{2}{3} > \frac{2}{4}$, because thirds are larger than fourths.

G $\frac{2}{3} = \frac{2}{4}$, because each model has 2 parts shaded.

H $\frac{1}{3} < \frac{1}{4}$, because 3 is less than 4.

J $\frac{1}{3} = \frac{1}{4}$, because each model shows 1 whole.

GO ON

29 The picture shows the coins that are in a piggy bank.

Which dot plot represents the value in cents of each coin in the piggy bank?

Coins in a Piggy Bank

A

Value of Coin (cents)

Coins in a Piggy Bank

B

Value of Coin (cents)

Coins in a Piggy Bank

C

Value of Coin (cents)

Coins in a Piggy Bank

D

Value of Coin (cents)

30 There are a total of 294 restaurants in a city.

- Of these restaurants, 196 are along the highways, and 49 are downtown.
- The rest of the restaurants are in shopping malls.

Which model can be used to find the number of restaurants in the city that are in shopping malls?

F

?		
294	196	49

G

294		
196	49	?

H

196		
294	49	?

J

49		
294	196	?

GO ON

31 The table shows the weights of four elephants.

Elephant Weights

Elephant	Weight (pounds)
R	12,345
S	13,960
T	12,509
U	11,960

Which comparison of these weights is true?

A The weight of Elephant R $<$ the weight of Elephant T

B The weight of Elephant U $>$ the weight of Elephant T

C The weight of Elephant S $=$ the weight of Elephant U

D The weight of Elephant S $<$ the weight of Elephant T

32 Maria put cloth squares together to make a blanket. The blanket is modeled by this rectangle.

1 foot

1 foot

What is the area of the blanket in square feet?

F 17 square feet

G 34 square feet

H 72 square feet

J 63 square feet

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

STOP