

# 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 ounces
	1 quart = 2 pints
	1 pint = 2 cups
	1 cup = 8 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**

<b>Perimeter</b>	square	$P = 4s$
	rectangle	$P = 2l + 2w$ or $P = 2(l + w)$
<b>Area</b>	rectangle	$A = lw$ or $A = bh$

**DIRECTIONS**

Read each question. Then fill in the correct answer on your answer document.

**SAMPLE A**

Which digit is in the thousands place in the number 61,392?

- A**     6
- B**     5
- C**     1

**SAMPLE B**

Joe has 8 books. Rob has twice as many books as Joe has.

How many books does Rob have?

- F**     16
- G**     51
- H**     3



1. Which number has at least 1 line of **symmetry**?

**Symmetry:** when one half of an object is a mirror image of the other half

A  
6

B  
7

C  
8



2. In which number sentence does **3** make the equation true?

**F**  $21 \div \square = 7$

**G**  $21 \times 7 = \square$

**H**  $\square \times 21 = 7$



3. Look at the 2 sets of numbers below.

Set Y
122
366
488

Set Z
212
313
515

Which number below belongs in Set Y?

- A 405
- B 244
- C 424



4. Look at the table below.

**Distances Climbed**

<b>Climber</b>	<b>Distance</b>
John	2,692 feet
Lin	4,966 feet

Which is the best estimate of how many more feet Lin climbed than John?

- F** 6,000 feet
- G** 4,000 feet
- H** 2,000 feet



5. Which transformation is represented from Figure X to Figure Y?

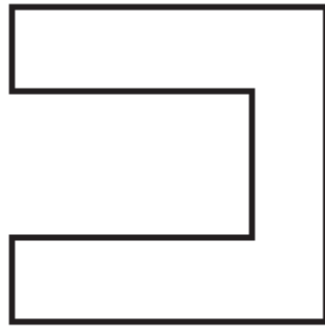


Figure X

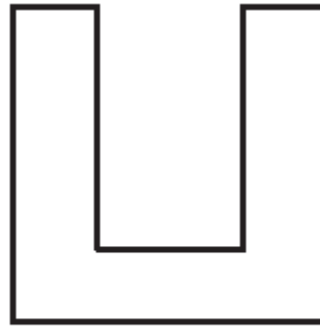
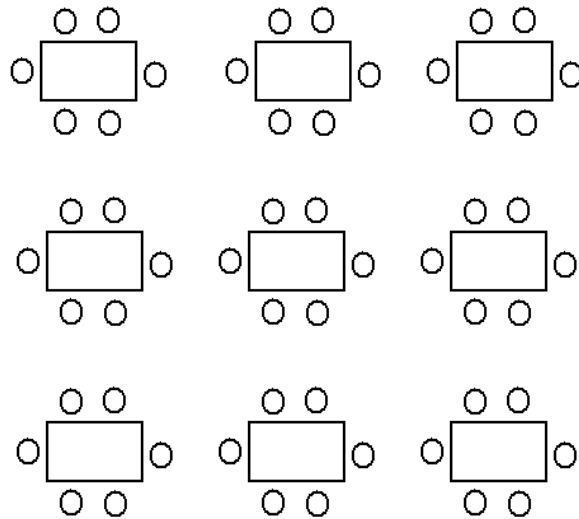


Figure Y

- A Translation
- B Rotation
- C Reflection



6. Which number sentence can represent the number of chairs at the tables?



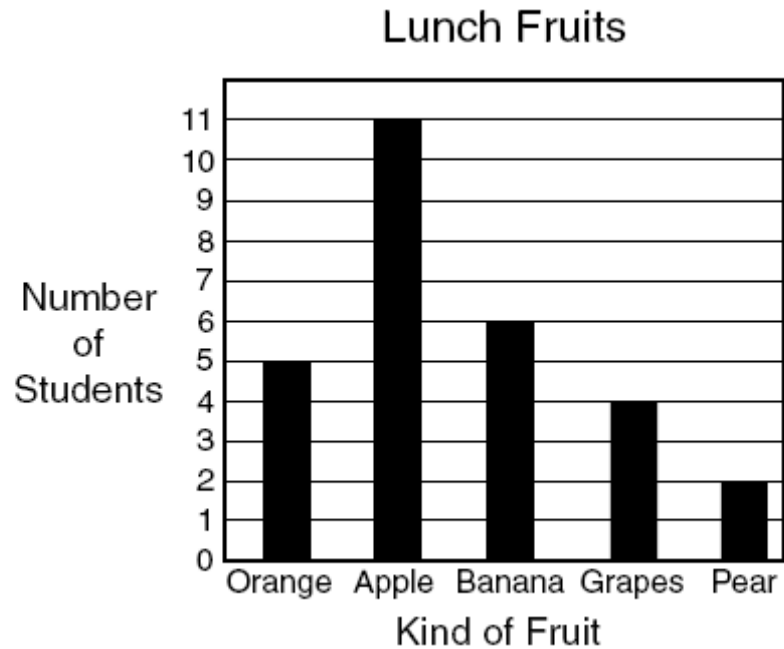
**F**  $9 - 6 = \square$

**G**  $6 \times 9 = \square$

**H**  $6 + 9 = \square$



7. The graph shows how many students ate each kind of fruit with their lunch.

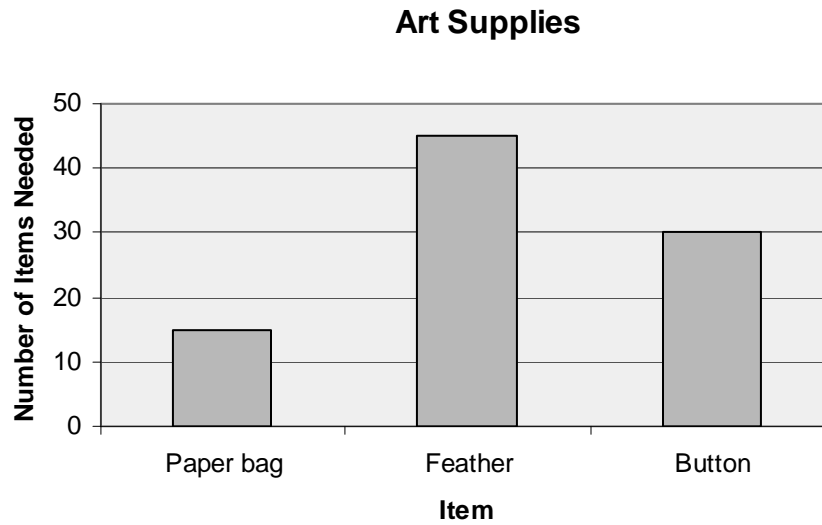


How many more students ate apples than grapes?

- A** 3
- B** 9
- C** 7



8. The graph below shows art supplies.



The feathers will be divided equally among 5 students.

How many feathers will each student get?

**F**      4

**G**      9

**H**      6



9. The table below shows the number of shirts and the number of buttons on the shirts.

### Buttons on Shirts

Shirts	Buttons
4	20
8	40
12	60

Which number sentence shows the relationship in the table?

- A Number of shirts  $\times$  5 = number of buttons
- B Number of shirts + 32 = number of buttons
- C Number of shirts + 19 = number of buttons



**10.** A bug crawled up and down a plant 4 times each day for a week.

What information is needed to find the total distance the bug traveled during the week?

- F** The plant's height
- G** The weather during the week
- H** The type of plant



**11.** Mr. Henderson wants to read a different story to each of the classes listed below.

Class	Reading Time
1	23 minutes
2	26 minutes
3	23 minutes
4	26 minutes

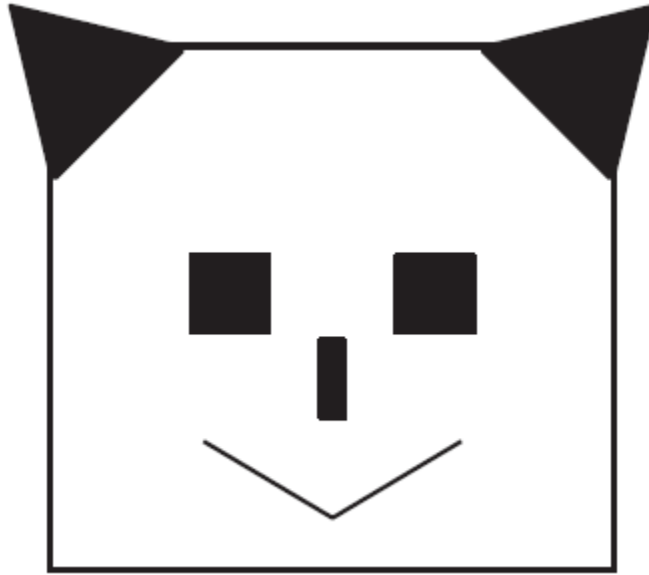
Mr. Henderson can stay for 2 hours. Which strategy can he use to find whether he has enough time for all 4 classes?

- A** Multiply 4 classes by 1 hour
- B** Draw a picture of himself with each of the 4 classes
- C** Add all the reading times together to decide whether the sum in minutes is more or less than 2 hours



12. Which part of the cat's head pictured below appears to have **acute angles**?

**Acute angle:** angle measuring less than  $90^\circ$



- F Eyes
- G Nose
- H Ears



**13.** The table below shows the total number of points scored by Team A and Team B during two parts of a game show.

**Game Show**

<b>Teams</b>	<b>Part 1</b>	<b>Part 2</b>
Team A	300 points	600 points
Team B	600 points	500 points

How many more total points did Team B score than Team A?

**A** 300

**B** 200

**C** 100



**14.** 90 players signed up to play in a baseball league. There were 10 players on each team.

Which number sentence is in the same fact family as:

$$90 \div 10 = \square$$

**F**  $9 \times \square = 90$

**G**  $90 \times 10 = \square$

**H**  $9 \times 90 = \square$



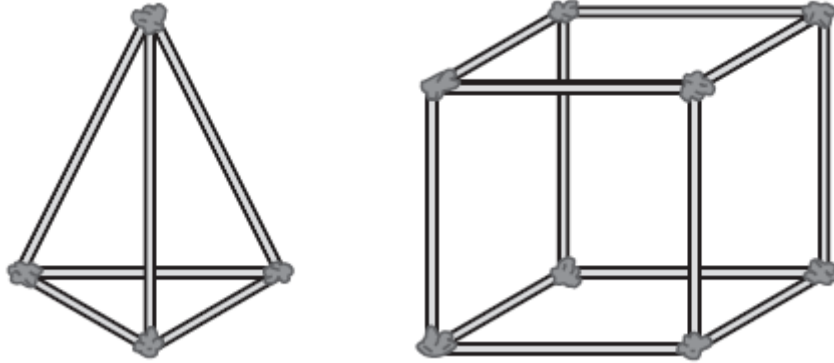
**15.** Jan has 12 days to read a 120-page book for a report.

How many pages should she read each day to finish the book on time?

- A** Subtract 12 from 120
- B** Multiply 130 by 12
- C** Divide 120 by 12



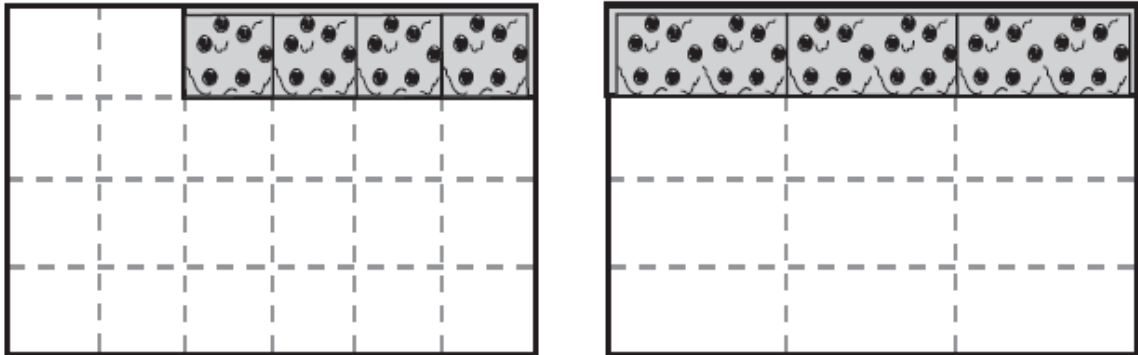
**16.** If you count the number of straws used for both models, what information will you have?



- F** The total number of vertices
- G** The total number of edges
- H** The total number of angles



**17.** The two pans of brownies below show what was left after several students finished eating.



Which of the following compares the portion of brownies left in each pan?

**A**  $\frac{4}{24} < \frac{3}{12}$

**B**  $\frac{3}{24} > \frac{4}{24}$

**C**  $\frac{2}{24} < \frac{6}{12}$

**GO ON** 

**18.** Which of these units would best measure the mass of a hummingbird?

**F** centimeters

**G** grams

**H** millimeters



**19.** The table below shows the amount of money earned by 3 brothers.

**Money Earned**

<b>Brother</b>	<b>Amount of Money</b>
Josh	\$10
Cody	\$15
Tim	\$20

After putting their money together, the brothers bought 3 tickets that cost \$10 each.

Which shows the amount of money the brothers had left?

**A** \$40

**B** \$15

**C** \$5



**20.** If Allen does 25 jumping jacks each day, how many jumping jacks will he do in 1 week?

1 week = 7 days

**F** 175

**G** 23

**H** 500

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**21.** A class is going on a field trip. Each group of 5 students will need a teacher.

What can the class do to find out how many teachers are needed?

- A** Add 5 to the total number of students
- B** Divide the total number of students by 5
- C** Subtract 5 from the total number of students

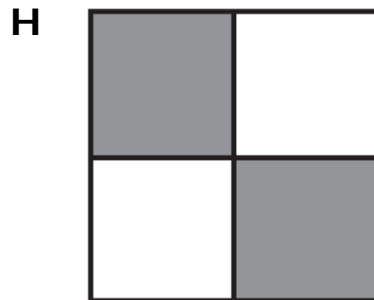
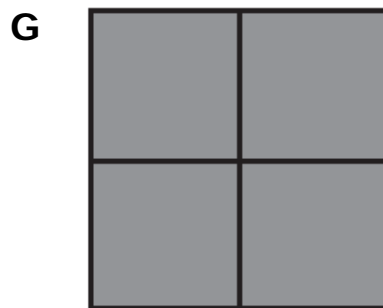
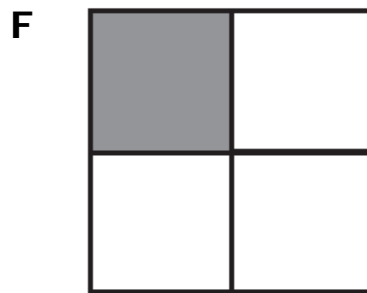


22. The model is shaded to represent a fraction.



Which model below shows an **equivalent** fraction?

**Equivalent:** the same value, expressed in a different way.



**23.** A wall is 12 feet wide and 5 feet high. What is the area of the wall?

$$\text{Area (A)} = \text{length (l)} \times \text{width (w)}$$

- A** 60 square feet
  - B** 40 square feet
  - C** 7 square feet
- 

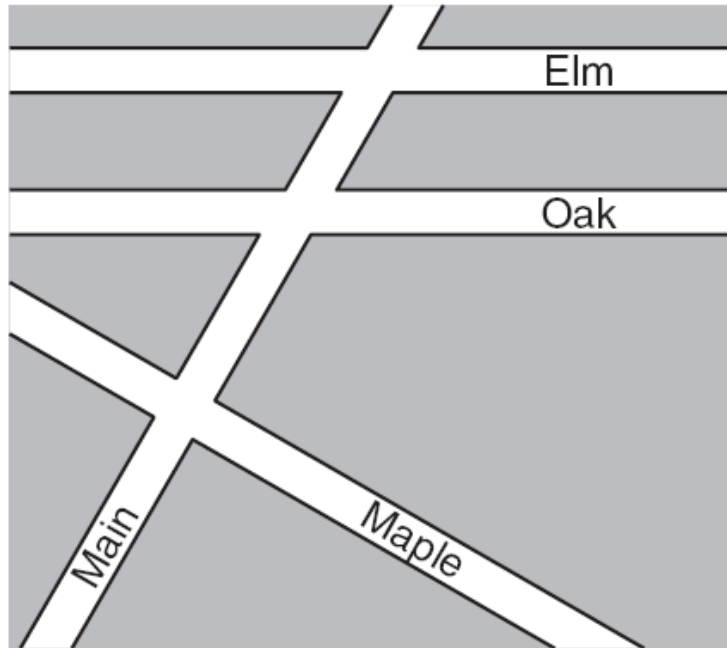
**24.** Ms. Powell has donated a total of \$320 to a library during the past 2 years. She has donated the same amount of money each year.

How much money has Ms. Powell donated to the library in each of the past 2 years?

- F** \$372
- G** \$160
- H** \$35



25. Look at the map below.



Which streets appear to be **perpendicular** to each other?

**Perpendicular:** lines that intersect to form a  $90^\circ$  angle.

- A Main and Maple
- B Oak and Maple
- C Elm and Oak



**26.** Linda is measuring an object's mass in grams. Which of the following objects is she most likely measuring?

**F** A school desk

**G** An ink pen

**H** A car



27. Which pair of numbers best completes this table?

Number	Number x 10
5	50
7	70
9	90

- A 4 and 40
- B 5 and 25
- C 6 and 36



**28.** The table shows the regular prices of some shirts and the sale prices.

**Shirt Prices**

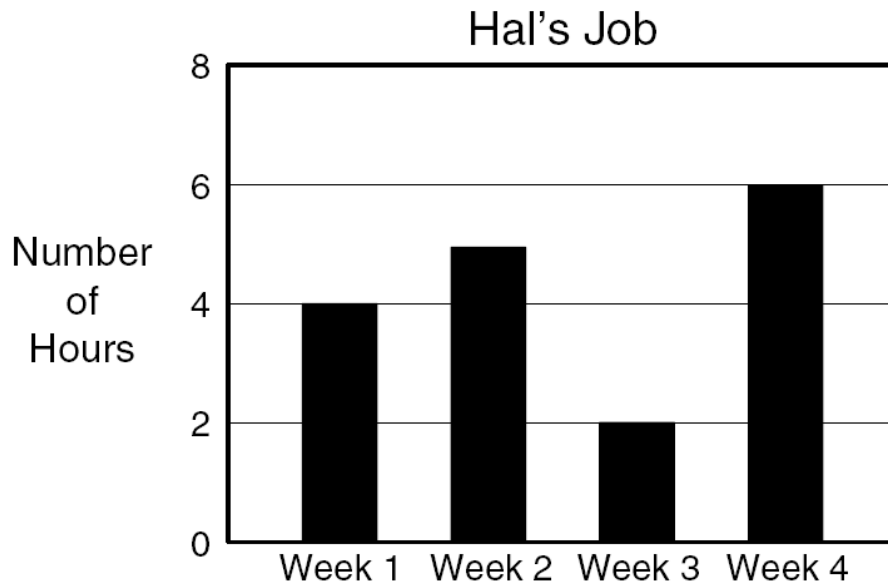
Regular Price	Sale Price
\$17	\$12
\$21	\$16
\$25	\$20

What does the table tell you about the sale prices?

- F** Take \$10 off the regular price
- G** Take \$5 off the regular price
- H** Take \$7 off the regular price



**29.** Hal made this graph to show the number of hours he worked for 4 weeks.



If Hal earned \$6 per hour, how much money did he earn during Week 1?

- A** \$12
- B** \$30
- C** \$24



**30.** Henry is 1 meter 39 centimeters tall. How much taller is Rob than Henry?

**Tall People**

<b>Person</b>	<b>Height (cm)</b>
Rob	278
John	264

1 meter = 100 cm

- F** 10 cm
- G** 139 cm
- H** 432 cm



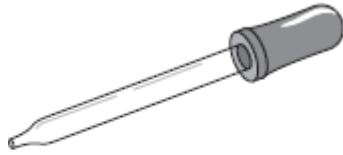
**31.** A store buys bananas in 12-pound boxes. The store bought 100 boxes of bananas. How many pounds of bananas did they buy?

- A** 1,200 pounds
- B** 13 pounds
- C** 3,000 pounds



32. Which of the following holds only 1 milliliter of water?

F



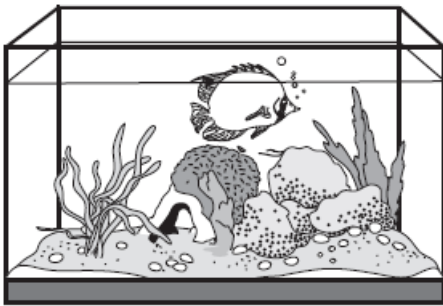
Dropper

H



Water Tower

G



Aquarium



**33.** The table below shows the number of baseball tickets sold at a stadium in the years 2001 through 2004.

Baseball Tickets Sold

Year	2001	2002	2003	2004
Number of Tickets	1,790,112	2,088,165	2,240,198	2,209,871

In which year were the most baseball tickets sold?

- A** 2001
- B** 2002
- C** 2003



**34.** There are 12 classrooms on the first floor, and each classroom has 12 windows.

How many windows are on the first floor?

**F** 13

**G** 144

**H** 276

