

SAMPLE PROBLEMS

For each sequence, draw four more figures to continue the pattern.

i.  , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_

5. ii.  , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_

iii.  , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_

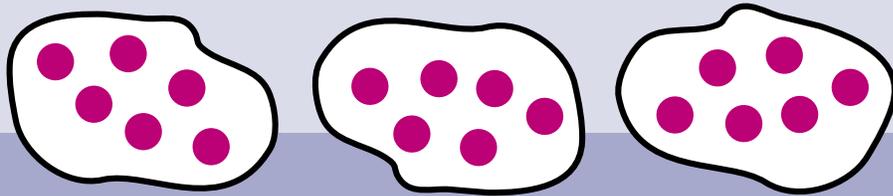
8. The Highway Department is repairing a bridge. The work-crew has two pieces of steel cable. One piece is 154 feet long and the other piece is 287 feet long. What is the difference in length of the two pieces? If the two pieces of cable are

welded together, how long will the resulting cable be?



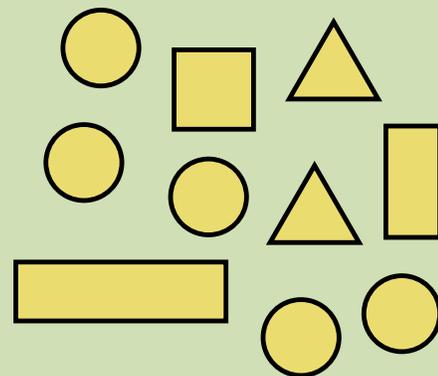
Which of these equations describe the pictures shown below? (Give all correct answers.)

- 18.
- i.  $6 \text{ dots} + 6 \text{ dots} + 6 \text{ dots} = 18 \text{ dots}$
  - ii.  $3 \text{ groups} \times 6 \text{ dots per group} = 18 \text{ dots}$
  - iii.  $18 \text{ dots} \div 3 \text{ groups} = 6 \text{ dots per group}$
  - iv.  $6 \text{ groups} \times 3 \text{ dots per group} = 18 \text{ dots}$



For the figures shown at right, each figure is what part of the set?

What fraction of the figures are rectangles?



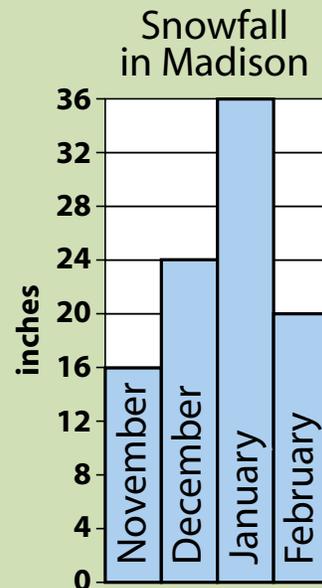
27.

Label each sentence TRUE or FALSE:

- i.  $\frac{5}{10}$  of the figures are circles.
- ii.  $\frac{1}{2}$  of the figures are circles.

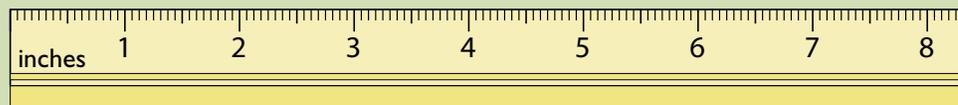
32.

This graph shows the inches of snow that fell in Madison during four months of 2001. What was the total number of inches for those months? If this total number of inches had been “spread out equally” over the four months, how many inches would have fallen each month?



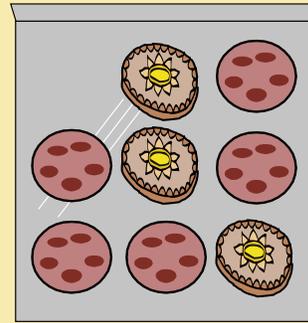
37.

Use an inch ruler and a plain sheet of paper. (No lines on it.) Draw a segment which is 3 inches long. Name its endpoints K and E. Starting at point E, extend the segment for 2 inches in the opposite direction from K.



51.

Rachael baked 40 cookies. Some were chocolate chip and some were jelly blobs. She put all the cookies into zip-top bags. Each bag has 5 chocolate chip and 3 jelly blobs. How many bags did Rachael fill? How many jelly blobs did she bake? What fraction of each bag of cookies were chocolate chip?



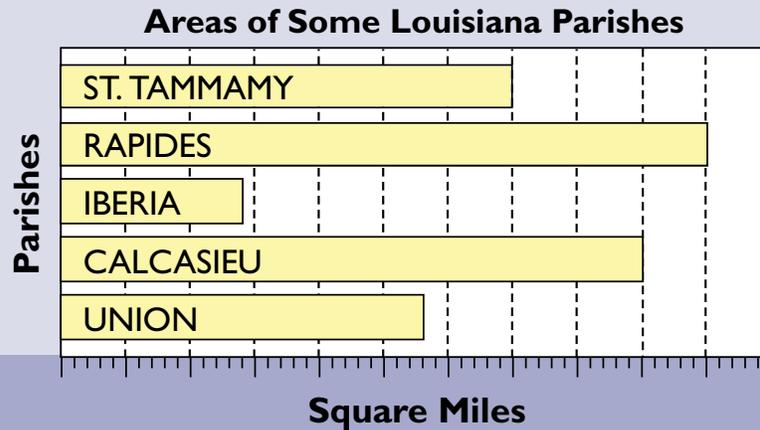
80.

A subway train travels at a constant speed of 80 miles per hour. How far will the train travel in 15 minutes? How far will it travel in 3 minutes? How long will it take this train to travel 12 miles?



The area of St. Tammany Parish is 700 square miles. What is the area of Calcasieu Parish? Which parish has an area of about 550 square miles?

83.



For each equation, find the number that  $n$  represents.

88.

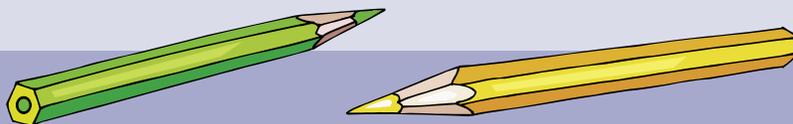
i.  $7 \text{ bags} \times 2 \text{ oranges per bag} = n \text{ oranges}$

ii.  $n \text{ packs} \times 6 \text{ cokes per pack} = 18 \text{ cokes}$

iii.  $25 \text{ men} + n \text{ women} = 48 \text{ people}$

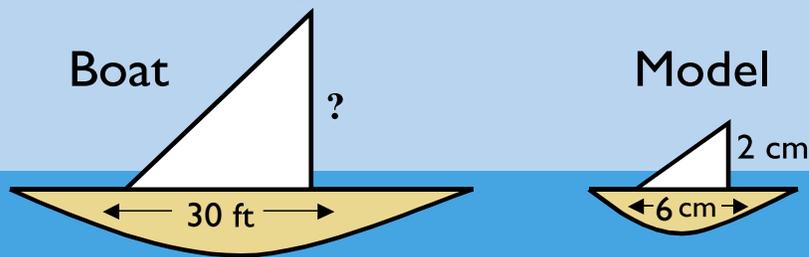
iv.  $n \text{ students} - 18 \text{ students} = 30 \text{ students}$

v.  $3 \text{ boxes} \times n \text{ pencils per box} = 12 \text{ pencils}$



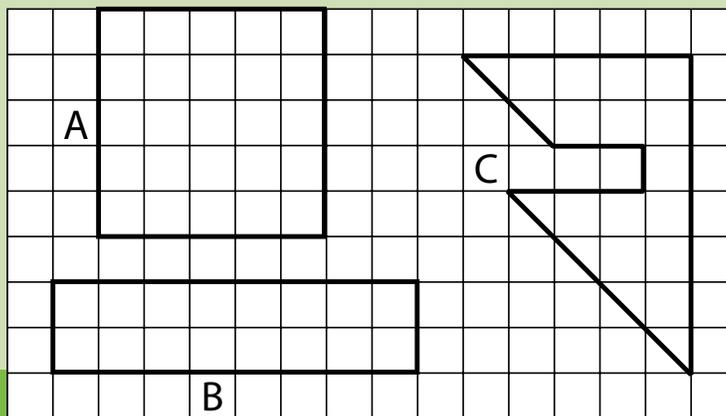
89.

Alesha is building a scale model of a boat. The actual length of the boat is 30 feet, and the length of the model will be 6 cm. Each centimeter on the model will represent how many feet on the actual boat? If the height of the sail on the model will be 2 cm, what is the actual height of the sail on the boat?



92.

The squares in this grid are square centimeters. TRUE or FALSE: Figure A and B have the same perimeter. Which figure, A or B, has the greater area?



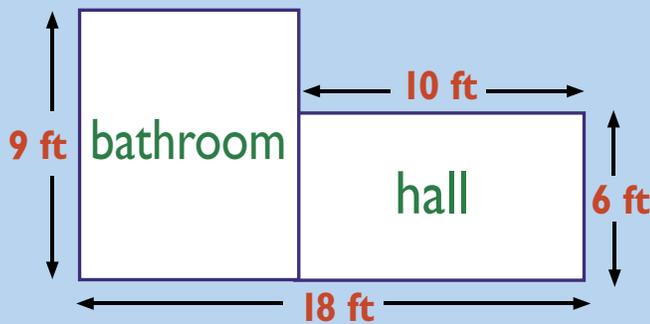
How much greater? What is the area of Figure C?

103.

Tony bought a chicken salad for \$2.95 and a large drink for \$1.39. He gave the cashier a \$5 bill. How much change should he get? If Tony is given his change with the fewest possible coins, what coins should he get?



104.



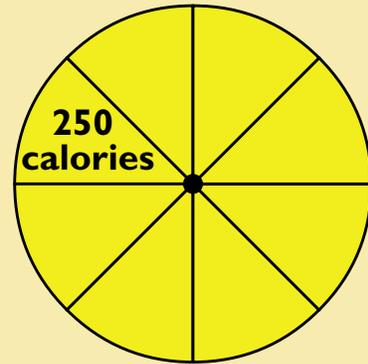
The floors of these two rooms are to be covered with square

tiles which measure 12 inches on each side. How many tiles will be needed? Hints:  
i. How many tiles will be needed for the hall?  
ii. How wide is the bathroom? iii. How many tiles will be needed for the bathroom?

111.

When a Luscious Lemon Pie is cut into 8 equal slices, each slice has 250 calories. How many slices is  $\frac{5}{8}$  of the pie? How many calories is  $\frac{3}{8}$  of the pie? How many slices is 75% of the pie? The radius of the pie is 5 inches. What is the diameter of the pie?

Luscious Lemon Pie



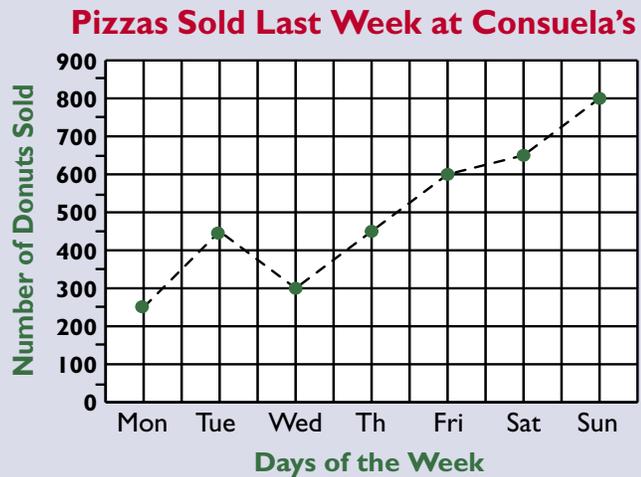
117.

Alverna, Beth, Connie, Darla, and Emily are the five starting players on the Shooting Stars basketball team. Two players must be named as co-captains for tonight's game. List all the different pairs of girls that can be named. (Remember, Beth and Darla is the same pair as Darla and Beth.)



123.

Were exactly 500 pizzas sold on any day last week? If so, what day was it? How many pizzas were sold altogether during these 7 days? What was the average number of pizzas sold per day during this week?



125.



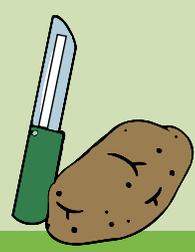
Gabe, Hal, Izzy, and Judd play golf together every week. They tee off in order of age—youngest first.

Gabe and Judd are both older than Izzy. Hal is younger than Judd and older than Gabe. Who tees off first? Who is last?

What tool or instrument would you use to find each of these? What unit would you use?

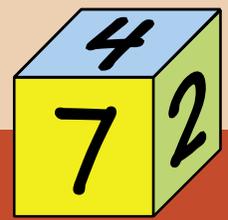
127.

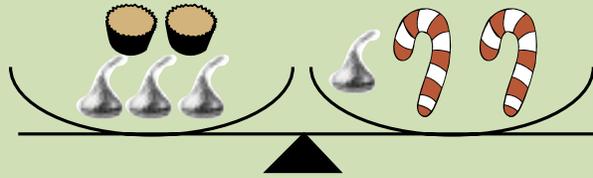
- a. width of your hand
- b. height of a person
- c. area of an envelope
- d. length of a truck
- e. weight of a pair of socks
- f. capacity of a salad bowl
- g. time it takes to peel 6 potatoes



On this cube, the two numbers on each pair of opposite faces have 10 as their sum. Write the six numbers that are on the faces. When the cube is rolled, which is more likely to land on top, an even number or an odd number? What are the chances that an even number will land on top? If the cube were rolled 600 times, about how many times would you expect an odd number to land on top?

135.





162.

These sets of candies are balanced. How many 🍪s and how many 🍬s would have to be put on the left pan to balance the scale below? Explain how you got your answer.

