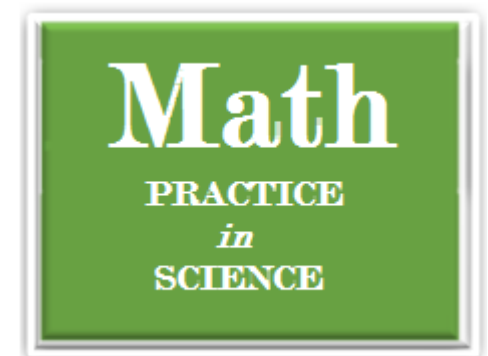


# 069 Math Practice

## Introducing Percents



Percents are based on 100 parts. If our work is 75% complete, then 75 parts out of 100 are finished. We can also think about percents in terms of a shape containing 100 squares.

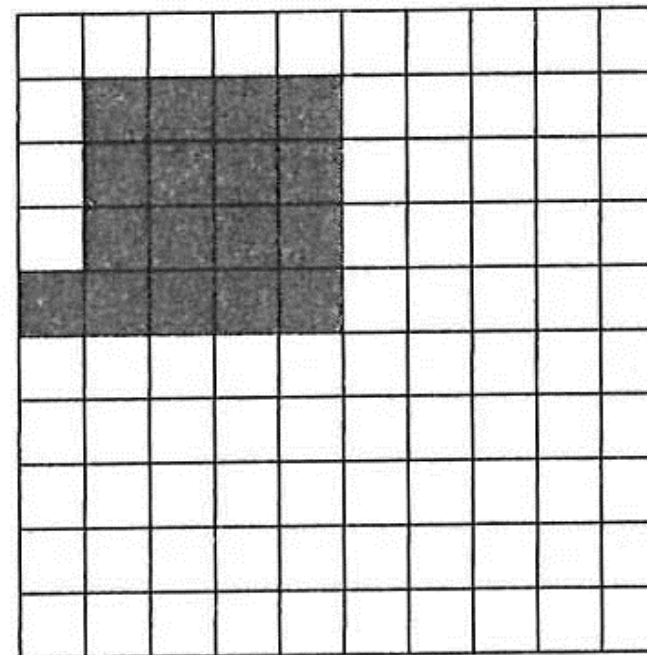
This large block has a total of 100 smaller blocks; 17 of these blocks are shaded.

We can say this in three different ways:

$\frac{17 \text{ shaded}}{100 \text{ total}}$  or 17 per 100 shaded

OR

17 percent (17%)



Percents can sometimes be written as fractions. Fractions and percents can both mean a portion of the whole.

**Write the fraction and the percent that represent the area shaded.**

1. \_\_\_\_\_  
and  
\_\_\_\_\_%

2. \_\_\_\_\_  
and  
\_\_\_\_\_%

3. \_\_\_\_\_  
and  
\_\_\_\_\_%

4. \_\_\_\_\_  
and  
\_\_\_\_\_%

5. \_\_\_\_\_  
and  
\_\_\_\_\_%

6. \_\_\_\_\_  
and  
\_\_\_\_\_%

7. \_\_\_\_\_  
and  
\_\_\_\_\_%

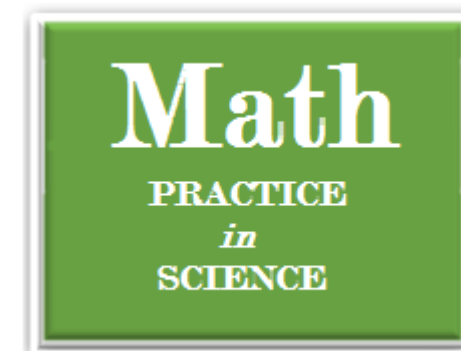
8. \_\_\_\_\_  
and  
\_\_\_\_\_%

9. \_\_\_\_\_  
and  
\_\_\_\_\_%



# 070 Math Practice

## Solving for Percents



We can think of percents as ratios. Ratios compare two numbers. Percents compare a part to a whole. The "whole" is always 100 when you are working with percents.

*Example:* Jason got 87 words right on a test that contained 100 words. What was his test score?

$\frac{87 \text{ right}}{100 \text{ total}}$  equals 87% because the denominator is 100.

Sometimes the whole is not given as 100. You have to change your ratio to parts per 100. You can do this by using proportions.

*Example:* Three out of four doctors recommend this medication.

What percent of the doctors recommend this medication?

$\frac{3 \text{ recom.}}{4 \text{ total}} = \frac{N \text{ recom.}}{100}$  "N" will be the percent because the denominator is 100.

$$4 \times N = 3 \times 100$$

$$4 \times N = 300$$

$$N = 300 \div 4 \quad \text{or} \quad N = 75$$

The correct answer is 75%.

**Write a percent to tell what part of the whole is described.  
Write any remainders as a fraction.**

1. Four out of five people like Muncho Chips.  
\_\_\_\_%

2. The Fighting Lizards have won 3 of their 10 games so far.  
\_\_\_\_%

3. Three-fifths of those interviewed are going to vote for Paco.  
\_\_\_\_%

4. Seven-eighths of the town came to the fair.  
\_\_\_\_%

5. One-third off of all prices.  
\_\_\_\_%

6. Mary got 4 hits for 7 times at bat.  
\_\_\_\_%

7. Lu Wen can make 9 out of 10 shots from the foul line.  
\_\_\_\_%

8. Two-thirds of the neighborhood attended the meeting.  
\_\_\_\_%

9. Four members of the class of 24 were absent.  
\_\_\_\_%