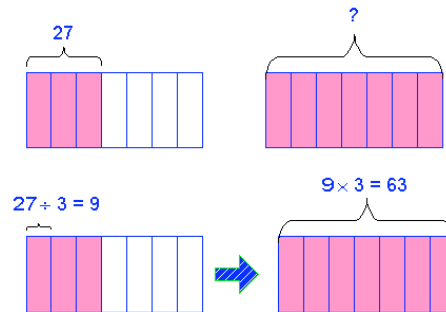


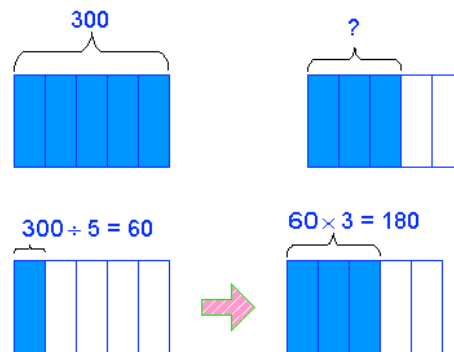
## MATH 3/4: ASSIGNMENT 5

FEBRUARY 21, 2010

**How to find a quantity if you know its fraction.** Suppose that you know that 27 coats is  $\frac{3}{7}$  of all coats in the store. How many coats are in the store? The total number of coats is  $\frac{7}{7}$ . To find  $\frac{7}{7}$ , first find what  $\frac{1}{7}$  of the total number of coats is. Since 27 is  $\frac{3}{7}$  of the coats, then  $\frac{1}{7}$  of the coats is  $27 \div 3 = 9$ . Since  $\frac{1}{7}$  of the coats is 9,  $\frac{7}{7}$  is  $9 \times 7 = 63$ .



**How to find a fraction of a quantity.** Suppose you know that there are 300 children in the school, and that  $\frac{3}{5}$  of them are boys. How many boys are there? First find  $\frac{1}{5}$  of all children. That is  $300 \div 5 = 60$ . Now to find what  $\frac{3}{5}$  of all children is, simply multiply 3 by 60:  $60 \times 3 = 180$ .



**How to figure out what fraction of one quantity is the other quantity.** Suppose you want to know what fraction of your Halloween candies are chocolates, if you have 153 candies and 60 of them are chocolates. Simply divide the number of chocolates by the number of all candies. Do not forget to simplify your fraction!  $\frac{60}{153} = \frac{3 \times 20}{3 \times 51} = \frac{20}{51}$ . So the number of chocolates is  $\frac{20}{51}$  of all candies.

1. Find

$$\frac{4}{5} \text{ of } 145; \quad \frac{3}{12} \text{ of } 144; \quad \frac{7}{9} \text{ of } 171; \quad \frac{3}{7} \text{ of } 343$$

2. Find  $x$  if

$$\frac{4}{7} \text{ of } x \text{ is } 144; \quad \frac{3}{11} \text{ of } x \text{ is } 111; \quad \frac{2}{5} \text{ of } x \text{ is } 112; \quad \frac{5}{9} \text{ of } x \text{ is } 105$$

3. (a) What fraction of one hour is 22 minutes?

(b) What fraction of June is 6 days?

(c) What fraction of one yard is 10 inches?

(d) What fraction of one hour is 90 seconds?

4. There are 4 short stories in the book. The first story is 12 pages long, which is  $\frac{2}{3}$  of the second story. The third story is  $\frac{5}{6}$  of the length of the first two stories together. How long is the fourth story, if four stories together occupy 64 pages in the book?

5. The farmer was selling potatoes at the market for 3 days. On Monday he sold  $\frac{2}{3}$  of all potatoes, on Tuesday - 284 kg. How many kg did he sell on Wednesday, if he sold 1,620 kg of potatoes altogether?

6. 2160 pencils were made at the factory.  $\frac{1}{3}$  of this number was put in small boxes (6 pencils per box) and the rest - in big boxes (12 pencils per box). How many boxes were used?

7. How many times is the digit 4 used in writing all of the integers from 1 to 100?