

Date: \_\_\_\_\_

$$50\% = \frac{1}{2} \quad \div 2$$

$$10\% = \frac{1}{10} \quad \div 10$$

$$25\% = \frac{1}{4} \quad \div 4$$

### 4.3 Percent of a Number

What are some places where finding the percent of a number may be useful?

commission for salespeople  
shopping : sales / discounts / taxes

In math, the word "of" means to:

multiply.

out of : fraction / division

Use mental math to determine each of the following:

50% of 190

$$\div 2 = 95$$

10% of 220

$$\div 10 = 22$$

75% of 150

$$\frac{3}{4} \text{ of } 150, \text{ then } \times 3$$
$$120 < 150 < 160$$
$$30 < \textcircled{37} < 40 \quad \doteq 111$$

12% of 810

Steps to finding the percent of a number:

method 1

proportion

$$\frac{12}{100} = \frac{97.2}{810}$$

method 2

find out 1% then multiply.

$$12 \times \frac{810}{100} = \underline{97.2}$$

method 3

convert %  $\rightarrow$  decimal multiply.

$$\frac{12}{100} \times 810$$

$$.12 \times 810 = 97.2$$

Find the following percentages:

63% of 112

$$\frac{63}{100} = \textcircled{\frac{70.56}{112}}$$

150% of 6

$$\frac{150}{100} = \textcircled{\frac{9}{6}}$$

0.23% of 45

$$\frac{.23}{100} = 0.0023$$

$$.0023 \times 45 = 0.1035$$

2¼% of 9

2.25% of 9

$$0.0225 \times 9 = 0.2025$$

## Word Examples.

Now that they are 25, Larry and Svetlana are allowed to date. Larry took Svetlana out for a very nice dinner at the very expensive "Let's Hold Hands" restaurant. After some nice conversation and dinner, the bill came to \$93.22. Larry was scared to look as he was unsure of how much to tip the server. It is customary to tip a server 15%, but he forgot his calculator in the car. Help Larry use mental math to determine how much of a tip to leave.

15% of 93.22

$$90 < 93.22 < 100$$

$$10\% \text{ of } 90 = 9$$

$$13.50 < \quad < 15$$

$$5\% \text{ of } 90 = 4.50$$

tip is approx \$14

The annual Tsawwassen lottery usually sells 575 tickets.

What is your chance of winning if you purchase 1 ticket?

$$\frac{1}{575} = 1 \div 575 \times 100\% = 0.174\%$$

How many tickets would you need to buy for a 8% chance of winning?

①  $8\% \div 0.174\% \text{ per ticket} = 46 \text{ tickets}$

② you need 8% of all tickets  
8% of 575

$$\frac{575}{100} \times 8 = 46 \text{ tickets.}$$

HW p 142 #3, 5-11, 13, 14