3.7 Solve Percent Problems



 ${\sf JOG}$ your memory...remember that middle school math:

Write $\frac{1}{2}$ as a percent: 50%

Write .5 as a percent: 50%

.5G.

Write $\frac{1}{4}$ as a percent: 25%

Write 1.28 as a percent: 128%

Write $\frac{1}{12}$ as a percent: 9.5%

Write .178 as a percent:

17.8%

STOP....In the name of **MATH**! We use **percents** ALL the time in real life. EVERY TIME we shop or go out to eat, or check taxes, or...... I could keep going.

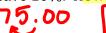


If you can do the problem in your head OR quickly with a a calculator, there is NO NEED for a formal set up!!!



Think about it/Talk about it with your partner: Write down only the final answer. (NO CALCULATOR)

1. You go out to mini golf with a big group of friends, and the total bill is \$75. You have a coupon to save 10%. How much money do you save on your total?







2. You go out to dinner with your parents, and the total bill is \$90. The service was great, and your parents want to tip 20%. How much money should they add to the bill?

3. You keep your eye out at the clearance racks at the mall – your favorite shirt is currently 25% off! Yay! How much money will you pay for a shirt that was originally \$32.00.

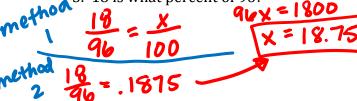




Can you find the following percents? You may use your calc

4. What is 35% of 70?

5. 18 is what percent of 96?



- 6. You need a new pair of shoes for basketball. They are \$79.99 with 35% off. (Take out your cell phone
 - a. What is the price of the shoes (before taxes).

- 79.99-28=\$51.99
- b. If tax is 8%, how much will you pay in taxes?



If you aren't sure ... then what!?!? Sometimes a formal set up may help you — although NOT always necessary.

whole



You can represent "a is p percent of b" using a **proportion**:

You can represent "a is p percent of b" using the **equation**:

Let's try BOTH ways, then YOU decide which you like better.

$$\frac{17}{25} = \frac{P}{100} \quad P = 68\%$$

$$17 = p \cdot 25$$
 $17 = p$
 $25 = p$
 $68 = p$
 68%

Ex. 2: What number is 45% of 92?

Ex. 3: 50 is 125% of what number? (You try – with whichever method you prefer)

$$\frac{50}{b} = \frac{125}{100} \quad 125b = 5000$$

Ex. 4: You went to the grocery store and paid \$2.79 for a box of your favorite cereal. You know that the cereal is regularly \$3.99. What percentage did you save on this purchase?

$$\frac{2.11}{3.99} = \frac{1}{100}$$
 $279 = 3.99$
 $70 = P$

