

### **3.7: Solve Percent Problems**

- Goals:** \*Understand percent as a comparison to 100  
\*Solve percent problems using proportions or equations  
\*Solve percent of change problems
- 

#### ***\*\*RAPID REVIEW\*\****

- To change a Percent to a Decimal:
- To change a Decimal to a Percent:



Use alphabet if you forget: a b c D e f g.....m n o P q r.....



**Change the following. If decimal, change to percent. If percent, change to decimal.**

**Ex:**  $73.5\% =$  \_\_\_\_\_

**Ex:**  $0.175 =$  \_\_\_\_\_

**Ex:**  $0.1\% =$  \_\_\_\_\_

- To change a fraction to percent:
- To change a percent to a fraction:

**Change the following. If fraction, change to percent. If percent, change to fraction.**

**Ex:**  $\frac{2}{5} =$  \_\_\_\_\_

**Ex:**  $73\% =$  \_\_\_\_\_

**Ex:**  $\frac{3}{8} =$  \_\_\_\_\_

**Ex:**  $140\% =$  \_\_\_\_\_

To solve percent problems you can use either the:

**PERCENT PROPORTION**

or

**PERCENT EQUATION**  
(good when want % of a #)

$$\frac{\textit{is}}{\textit{of}} = \frac{\%}{100}$$

"is"  $\longrightarrow$  =

"of"  $\longrightarrow$  •

**Solve using both methods. Then decide which you prefer.**

What percent of 25 is 17?

**Ex:** What number is 30% of 90?

**Ex:** What percent of 136 is 51?

**Ex:** 20 is 12.5% of what number?

**Ex:** What percent of 56 is 49?

**Ex:** What percent of 55 is 11?

**Ex:** What number is 45% of 92?

**Ex:** What number is 140% of 50?

**Ex:** What number is 12% of 85?

**Ex:** A survey asked 220 students to name their favorite pasta dish. Find the percent of students who chose the given dish.

a) Mac N' Cheese

b) Lasagna

Type	# Students
Spaghetti	83
Lasagna	40
Mac N' Cheese	33
Fettuccine Alfredo	22
Baked Ziti	16
Pasta Primavera	15
Other	11

**Ex:** A survey asked students how much they would tip for a \$28 meal. Find the percent of students who would tip:

a) \$4.20

b) at least \$5.00

c) \$5.60

Amount of Tip	# Students
\$2.00	19
\$2.80	28
\$3.00	45
\$4.20	36
\$5.00	47
\$5.60	8

\*What is the appropriate amount to leave for a tip if the service was adequate?

### **3.7 (Continued) Solve Percent of Change Problems**

To find percent of change:

**Ex:** A shirt was put on sale. Its original price was \$35 and it was sold for \$30. What was the percent of the sale?

**Ex:** A store buys jeans for \$20 and sells them for \$35 each. Find the percent of the mark-up.

**Ex:** Find the percent of change if a school's enrollment was 675 students last year and is 725 students this year.