6.5 Percent of Change p.242

- A percent of change is the percent that a quantity changes from the original amount
- It is either an increase or decrease (never go into negative numbers)

Steps: to find the ratio (fraction) to turn into a percent

- ✓ Subtract the two quantities (larger amount on top);
  This number is your numerator $\left(\frac{n}{d}\right)$
- ✓ The denominator is the original quantity (what it was first)
- ✓ Turn the ratio into a percent (divide, multiply by 100, and add % sign); may need to round to nearest tenth of a percent
- ✓ Write if it was an increase or decrease

Examples:

1. from 25 to 30
   $30-25=$ → $\frac{5}{25}$ = 20% increase

2. from 30 to 25
   $30-25=$ → $\frac{5}{30}$ = 16.7% decrease

3. from 202 to 192
   $202-192=10$ → $\frac{10}{202}$ $4.95 \sim$ 5% decrease

4. from $\frac{4}{5}$ to $\frac{3}{5}$
   $\frac{4}{5}-\frac{3}{5}=$ → $\frac{\frac{1}{5}}{\frac{4}{5}}$ $\frac{1}{5}\cdot\frac{5}{4}=\frac{1}{4}$ = 25% decrease

   or
   0.8 to 0.6 $\frac{0.2}{0.8}$ = 25% decrease

5. 72 paper clips to 63 paper clips
   $72-63=9$ $\frac{9}{72}$ = 12.5% decrease

Find the new amount:

Multiply; then Add or Subtract

↳ turn % into a decimal first

increase means +
decrease means −

Examples:

1. 15 liters increased by 60%

$15(0.6) = 9$

$9 + 15 =$ 24 Liters

2. 25 penalties decreased by 32%

$25(0.32) = 8$

$25 - 8 =$ 17 penalties

3. 12 dogs decreased by 25%

$12(0.25) = 3$

$12 - 3 =$ 9 dogs

4. 140 ounces increased by 45%

$140(0.45) = 63$

$140 + 63 =$ 203 ounces

5. 50 cupcakes decreased by 50%

$50(0.5) = 25$

$50 - 25 =$ 25 cupcakes