7.12 Unit Review

Unit 7: Percent

Name: _____ Date: _____ Class/Period: _____

Problem 7.215 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Explain the meaning of 37% without using a decimal.

Problem 7.216 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Write 62.5% as a fraction in simplest form.

Problem 7.217 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Write 0.4% as a decimal and fraction.

Problem 7.218 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Write $\frac{7}{16}$ as a percent.

Problem 7.219 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Write $\frac{5}{12}$ as an exact percent.

Problem 7.220 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Write 0.0035 as a percent.

Problem 7.221 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Write 1.75 as a percent.

Problem 7.222 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Explain why 140% can describe a real comparison.

Problem 7.223 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Order 0.25, 2.5%, and 0.025 from least to greatest.

Problem 7.224 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find 35% of 240.

Problem 7.225 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find 0.4% of 750.

Problem 7.226 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find 175% of 48.

Problem 7.227 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find 12.5% of 96 mentally.

Problem 7.228 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find $33\frac{1}{3}\%$ of 81.

Problem 7.229 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find 19% of 50 by decomposition.

Problem 7.230 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Estimate 48% of 203.

Problem 7.231 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Compare 49% of 81 with 41% of 99 without unnecessary exact arithmetic.

Problem 7.232 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Explain why 250% of a positive number is greater than the number.

Problem 7.233 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Thirty-six is 45% of what number?

Problem 7.234 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

54 is what percent of 72?

Problem 7.235 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find 28% of 350.

Problem 7.236 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Solve $0.72x = 54$.

Problem 7.237 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Solve $1.25x = 87.5$.

Problem 7.238 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Solve $\frac{x}{80} = \frac{42.5}{100}$.

Problem 7.239 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Solve $\frac{33}{x} = \frac{55}{100}$.

Problem 7.240 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

If 80% of x is 56, find 125% of x.

Problem 7.241 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

If 35% of a equals 20% of b, find $a : b$.

Problem 7.242 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

A number is 160% of another and exceeds it by 24. Find both numbers.

Problem 7.243 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Write and solve a percent proportion for "18 is 24% of what number?"

Problem 7.244 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Explain why the reference whole matters in a percent equation.

Problem 7.245 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find the sale price of a $\$96$ item discounted 25%.

Problem 7.246 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find the total after 8% tax on $\$75$.

Problem 7.247 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

A meal costs $\$42$. Find an 18% tip and the final total.

Problem 7.248 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

A store marks $\$80$ up by 35%. Find the new price.

Problem 7.249 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

A value rises from 80 to 94. Find the percent increase.

Problem 7.250 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

A value falls from 250 to 190. Find the percent decrease.

Problem 7.251 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find the number 35% less than 260.

Problem 7.252 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find the number 125% more than 48.

Problem 7.253 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Explain the difference between 150% of a number and 150% more than it.

Problem 7.254 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

A is 40% more than B. Find the percent by which B is less than A.

Problem 7.255 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

A price after a 20% discount is $\$72$. Find the original price.

Problem 7.256 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

A population is 125% of its earlier size. State the percent increase.

Problem 7.257 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find the net percent change after a 20% increase followed by a 20% decrease.

Problem 7.258 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Find the equivalent single discount for 10% off followed by 20% off.

Problem 7.259 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

A price rises 8% in one year and 12% in the next. Find the total two-year percent increase.

Problem 7.260 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

A store marks a bicycle up 35% from a wholesale price of $\$480$, then offers 20% off and adds 7.5% tax. Find the final price and the net percent change from wholesale.

Problem 7.261 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

A school has boys:girls $= 7 : 8$. Enrollment increases by 20%, but the ratio stays the same. Then 10% of the boys and 25% of the girls join a competition. If 369 students do not join, find the original enrollment.

Problem 7.262 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

After an increase of $r\%$, derive a formula for the percent decrease needed to return to the original amount. Then evaluate your formula for $r = 36$.

Problem 7.263 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

After two equal successive percent increases, a quantity is 144% of its original value. Find each increase.

Problem 7.264 Directions:
Show exact work unless a problem requests an estimate or rounded money amount. State the reference whole in every application. When you choose a percent proportion, use cross multiplication unless an obvious whole-number scale factor makes scaling immediate.

Explain algebraically why an increase of $r\%$ followed by a decrease of $r\%$ produces a net decrease.