

## Mid Unit Review Worksheet

- 1) 170% of 58
- 100% of 58 = 58
- 10% of 58 = 5.8  
x7            x7
- 70% of 58 = 40.6
- 170% of 58 = 98.6
- 2) Thomas walked his dog for 37 minutes today, 4 more minutes than yesterday.
- Write as a percent his walking time today compared to his walking time yesterday.
- Round your answer to the nearest percent.
- Yesterday = 37 - 4  
= 33 minutes
- $\frac{37}{33} = 1.1212121.. = 112\%$

3. A number is decreased from 67 to 27. Find the decrease as a percent.

$$\begin{aligned} \% \text{ decrease} &= \frac{\text{Difference}}{\text{Original}} \times 100 \% \\ &= \frac{67-27}{67} \times 100 \% \\ &= 40\% \times 100 \% \\ &= 0.597.... \times 100\% \\ &= 597\% \\ &= 60\% \end{aligned}$$

- 4) The number of members in the Math Club is increased from 114 to 268. Find the increase as a percent

$$\begin{aligned} \% \text{ increase} &= \frac{\text{Difference}}{\text{Original}} \times 100 \% \\ &= \frac{268 - 114}{114} \times 100 \% \\ &= \frac{154}{114} \times 100 \% \\ &= 1.35087719.... \times 100\% \\ &= 135\% \end{aligned}$$

- 5) At the beginning of 2005, the town of Richmond had 900 residents. The rate of population growth after that was estimated to be 0.6% per year. Calculate the population of Richmond at the beginning of 2007.(after 2 years)

Year 1	Year 2
0.6% of 900	0.6% of 905.4
0.006 x 900	0.006 x 905.4
5.4	5.4324
New Pop = 900 + 5.4 = 905.4	New Pop = 905.4 + 5.4324 = 910.8324
	= 911

6. a) Write 15.5% as a fraction in simplest form and as a decimal.

$$\frac{15.5}{100} = \frac{155}{1000} = \frac{31}{200} = 0.155$$

b) Write 6 3/4% as a decimal then a fraction in simplest form.

$$\frac{6.75}{100} = \frac{675}{10\,000} = \frac{27}{400} = 0.0675$$

c) Write 0.54% as a fraction and as a decimal.

$$\frac{0.54}{100} = \frac{54}{10\,000} = \frac{27}{5000} = 0.0054$$

d) Write 18/240 as a decimal and as a percent.

$$\frac{18}{240} = \frac{9}{120} = 0.075 = 7.5\%$$

e) Write 0.003 as a fraction and a percent.

$$\frac{3}{1000} = 0.3\%$$

8) A candy bar has a mass of 44 g and contains 11 g of sugar.

What percent by mass of the bar is sugar?

$$\frac{11}{44} = \frac{1}{4} = 0.25 = 25\% \quad \text{25\% of the bar is Sugar}$$

9) If 85% of the regular price is \$21.10, then what is the regular price

$$\begin{array}{l} 85\% \text{ of Regular price is } \$21.10 \\ 0.85 \times n = \$21.10 \end{array} \quad \text{The regular price is } \$24.83$$

$$\frac{0.85 \times n}{0.85} = \frac{\$21.10}{0.85}$$

$$n = \$24.83$$

10) There are 23 000 workers in a factory. The management decides to reduce the workforce by 18%. How many workers will the factory lay off?

$$\begin{array}{l} 18\% \text{ of } 23000 \text{ is } \underline{\hspace{2cm}} \\ 0.18 \times 23000 \\ = 4140 \end{array}$$

11. Write the numbers in order from least to greatest.

$$\frac{7}{20}, 0.38, \frac{9}{25}, 32\%$$

Explain your strategy.

$$\frac{7}{20} = \frac{35}{100} = 0.35 = 35\%$$

$$0.38 = \frac{38}{100} = 38\%$$

$$\frac{9}{25} = \frac{36}{100} = 0.36 = 36\%$$

$$32\% = 0.32$$

$$32\%, \frac{7}{20}, \frac{9}{25}, 0.38$$

The Grade 8 students of a school must take on one of these activities: sing in the choir, play in the school band, or take part in a drama.

There are 21 students in the choir, 24 in the band, and 15 in the drama club.

What fraction of the students are involved in each activity? Write each fraction as a per

$$\begin{aligned} \text{Total} &= 21 + 24 + 15 \\ &= 60 \text{ students} \end{aligned}$$

$$\text{Choir } \frac{21}{60} = \frac{7}{20} = 35\%$$

$$\text{Band } \frac{24}{60} = \frac{2}{5} = 40\%$$

$$\text{Drama } \frac{15}{60} = \frac{1}{4} = 25\%$$

An antique vase was priced \$120. After 5 years, the value of the vase has increased by 20%.

What is the new price of the vase? Show your work

$$120\% \text{ of } \$120$$

$$1.2 \times \$120$$

$$\$144$$

The vase is valued at \$144

## Attachments

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Quiz on Percents (Mid Unit Feb 25).pdf