

Chapter 8: Percents**Section 8.3 - Percent of a number****Vocabulary**

Percent benchmark - common percents that have a simple fractional equivalent.

- convenient to work with using mental math.

Percent Benchmarks			
$100\% = 1$	$25\% = \frac{1}{4}$	$12.5\% = \frac{1}{8}$	$33\frac{1}{3}\% = \frac{1}{3}$
$10\% = \frac{1}{10}$	$50\% = \frac{1}{2}$	$20\% = \frac{1}{5}$	$66\frac{2}{3}\% = \frac{2}{3}$
$1\% = \frac{1}{100}$	$75\% = \frac{3}{4}$		
$0.1\% = \frac{1}{1000}$			

Mental Math Methods**Example - use multiples of 10****Key Points**

0.2% of \$1000

$$0.1\% = \frac{1}{1000}$$

$$\frac{1}{1000} \times \frac{1000}{1} = \$1$$

$$0.2\% = \$1 \times 2 = \$2$$

• 100% of 1000 is 1000

• 10% of 1000 is 100

• 1% of 1000 is 10

• 0.1% of 1000 is 1

• 0.2 % is just 2 x 0.1%

Try it out:

1.4% of 500

$$100\% = 500$$

$$10\% = 50$$

$$1\% = 5 \times 1 = 5$$

$$0.1\% = 0.5 \times 4 = 2$$

$$5 + 2 = \boxed{7}$$

2.1% of 30,000

$$100\% = 30,000$$

$$10\% = 3000$$

$$1\% = 300 \times 2 = 600$$

$$0.1\% = 30 \times 1 = 30$$

$$600 + 30 = \boxed{630}$$

Name:

Math 8

Date:

Example - break % down into pieces**Key Points**

150% of \$5

$$100\% \text{ of } \$5 = \$5$$

$$50\% \text{ of } \$5 = \$2.5$$

$$\$5 + \$2.5 = \$7.5$$

- Break percent into separate benchmarks
- Find 100% of \$5 and 50% of \$5
- Add the two together

Try it out:

325% of 60L

$$325\% = 100\% + 100\% + 100\% + 25\%$$

$$325\% = 60 + 60 + 60 + 15$$

$$325\% = \boxed{195L}$$

 $133\frac{1}{3}\%$ of 120kgs

$$133\frac{1}{3}\% = 100\% + 33\frac{1}{3}\%$$

$$133\frac{1}{3}\% = 120\text{kg} + 40\text{kg}$$

$$133\frac{1}{3}\% = \boxed{160\text{kg}}$$

99% of \$700

$$100\% - 1\% = 99\%$$

$$700 - 7 = \boxed{693}$$

$$\begin{array}{l} 100\% = 700 \\ 10\% = 70 \\ 1\% = 7 \end{array}$$

Calculate % of a number**Example - convert to decimal and multiply****Key Points**

38% of 350 people

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

$$0.38 \times 350 = 133 \text{ people}$$

- Turn percent into a decimal
- Multiply decimal by the number

Try it out:

46% of 250L

$$\downarrow$$

$$\frac{46}{100} = 0.46$$

$$0.46 \times 250L = 115L$$

107% of 685m

$$\downarrow$$

$$\frac{107}{100} = 1.07$$

$$1.07 \times 685m = 732.95m$$

0.13% of \$2500

$$\downarrow$$

$$\frac{0.13}{100} = 0.0013$$

$$0.0013 \times \$2500 = \$3.25$$

Practice assignment - page 277 # 1-6, choose 2 apply questions