Name: _____ Date: _____

Learning Goal 3.2	I can calculate the percent of a number and combine percentages.

Example Use mental math to determine the percentages of the following numbers.

(Hint: change the percent to a decimal first!)

a. 150% of $5

100% is $5
50% is $2.50
so
150% is $7.50

b. 0.1% of $100

1% is $1
$\frac{1}{10}$% is 10¢
$0.10

c. $1\frac{1}{2}$% of $20 000

1% is $200
$\frac{1}{2}$% is $100
so
$1\frac{1}{2}$% is $300

d. 15% of 480

10% is 48
5% is 24
so
15% is 72

Example Find the requested value.

a. What is 10% of 300?

$x = \frac{10}{100} \times 300$

$x = 0.1 \times 300$

$x = 30$

b. What percent of 64 is 16?

$100 \times \frac{x}{100} \times 64 = 16 \times 100$

$\frac{x \times 64}{64} = \frac{1600}{64}$

$x = 25$

c. 15 is 30% of what number?

$\frac{15}{30} = \frac{\frac{30}{100} \times x}{30}$

$100 \times \frac{1}{2} = \frac{x}{100} \times 100$

$50 = x$

$x = 50$

d. What is 0.8% of 280.6?

$x = \frac{0.8}{100} \times 280.6$

$x = 0.008 \times 280.6$

$x = 2.2448$

$x \doteq 2.2$

$x \approx 2.2$

e. What percent of 64 is 256?

$100 \times \frac{x}{100} \times 64 = 256 \times 100$

$\frac{x \times 64}{64} = \frac{25600}{64}$

$x = 400$

f. 9 is $\frac{2}{3}$% of what number?

$\frac{100}{9} = \frac{\left(\frac{2}{3}\right)}{100} \times x \times 100$

$\frac{900}{2} = \frac{\frac{2}{3} \times x}{2}$

$3 \times 450 = \frac{1}{3} \times x \times 3$

$1350 = x$

$x = 1350$

Assignment p. 142 #3 – 6, 8 – 10, 12, 13 Quiz Next Day!

Example Calculate the following.

a. A survey showed that $^1/_4\%$ of 800 students use inline skates to get to school. How many of the 800 students in a school use inline skates to get to school?

$\frac{(\frac{1}{4})}{100} = \frac{0.25}{100} = 0.0025$

$0.0025 \times 800 = 2$

Two students used inline skates to get to school.

b. $30\ ^3/_4\%$ of 400 students surveyed said they owned a cell phone. How many of the students own a cell phone?

$30\frac{3}{4} = 30.75$

$\frac{30.75}{100} \times 400 = 0.3075 \times 400 = 123$

$= \frac{123}{4}$

$\frac{(\frac{123}{4})}{100} \times 400 = \frac{123}{4} \times 4 = 123$

123 students own a cell phone.

c. Adele invested \$40.12 in a savings plan at the beginning of the year. By the end of the year her investment was worth 120% of its original value. How much was her investment worth, to the nearest cent?

$\frac{120}{100} \times 40.12$

$= 1.2 \times 40.12$

$= 48.14$

Her investment is worth \$48.14.

d. Sport market is having a sale. Everything in the store is 40% off. Justin buys a snowboard regularly priced at \$650. How much was the sale price?

40% off ⇒ you pay 60%

$\frac{60}{100} \times 650$

$= 0.6 \times 650$

$= 390$

Justin paid \$390 for his snowboard.

e. Patricia purchased the brand new PS5 for \$660. If the GST is 5% and the PST is 7%, how much tax did she pay altogether?

goods & services tax → GST + PST = 12%

↑ provincial sales tax

$\frac{12}{100} \times 660$

$= 0.12 \times 660$

$= 79.2$

She paid \$79.20 in tax.