5.2 Calculating Percents – Notes

Recall that when the whole is 1.0, you know that:

% → decimal
move decimal two places left

100% = 1

10% = 0.10 = 0.1 ← placeholder.

1% = 0.01

We can extend the pattern to write percents less than 1% as decimals:

0.1% = 0.001

0.5% = 0.005

0.07% = 0.0007

We can also extend the pattern to write percents greater than 100% as a decimals:

101% = 1.01

110% = 1.10 = 1.1

150% = 1.50 = 1.5

200% = 2.00 = 2

Example (1): The cost price of a winter coat is $80.
The selling price of the coat is 230% of the cost price.
What is the selling price of the coat?
Illustrate with a number line.

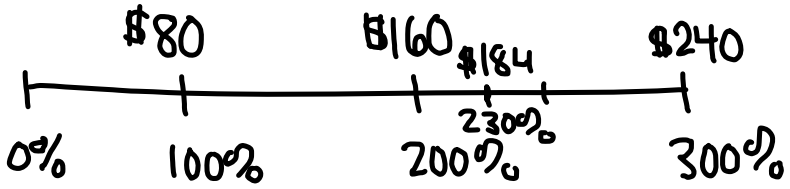
① Change % to decimal

② "of" means multiply

Selling Price (is) 230% (of) $80

Selling Price = 2.3 × $80

= $184



Example (2): In 2004, the population of Frist Nations people living on reserves in Alberta was 58 782. About 0.28% of these people belonged to the Mikisew Cree Band. About how many people belong to the band?

0.28% of 58 782

$0.0028 \times 58\,782$

164.5896

About 165 belong to the band.

Example (3): The student enrolment at CBI in 2015 was 820.
The population decreased by approximately 4% in 2016.
What was the population in 2016?

Population Decrease = 4% of 820

$= 0.04 \times 820$

$= 32.8$

Population decreased by 33 people.

Population$_{2016}$ = 820 - 33

= 787

The following year the population decreased by approximately 8%.
What was the population in 2017?

Population Decrease = 8% of 787

$= 0.08 \times 787$

$= 62.96$

Population decreased by 63 people.

So, population in 2017 is

787 - 63 = 724