1.4 - Sale Promotions-Notes

✓ Stores often have promotions in which they discount certain items.
✓ The discounts are often expressed as a percentage for example: 10% off, 50% off.

What you need to be able to do...using $15.00 item at 10% off

1. **Calculate the discount**: Multiply the regular or original price by the percentage off. The percentage must be in decimal form.
   
   \[
   \$15.00 \times 0.10 = \$1.50 \text{ (discount)}
   \]

2. **Calculating the sale / discounted price**: Calculate the discount first and subtract it from the sale / original price.
   
   \[
   15.00 - 1.50 = \$13.50
   \]

* **Calculating the discount price in one step**: Find the discount% and subtract it from 100%, convert it to a decimal then multiply it by the original price.

   \[
   \frac{\text{original price} - \text{discount}}{100} = \text{discount amount}
   \]
   
   \[
   100\% - 10\% = 90\%
   \]
   
   \[
   15.00 \times 0.9 = \$13.50
   \]

**Examples:**

1. Susie wants to buy a DVD it is on sale for 15% off. The regular price is $23.99. Using the two step method, calculate the discount and sale price of DVD.

   \[
   \text{discount} \quad 23.99 \times 0.15 = 3.5985
   \]
   
   \[
   = \$3.60
   \]
   
   \[
   23.99 - 3.60 = \$20.39
   \]

2. Salmon is regularly $18.50/kg and prawns are $34.50/kg. Both are on sale for 20% off. Calculate the sale price using the one step method.

   \[
   100\% - 20\% = 80\% \Rightarrow 0.80
   \]

   \[
   \text{Salmon} \quad \$18.50 \times 0.8 = \$14.80
   \]
   
   \[
   \text{prawns} \quad \$34.50 \times 0.8 = \$27.60
   \]