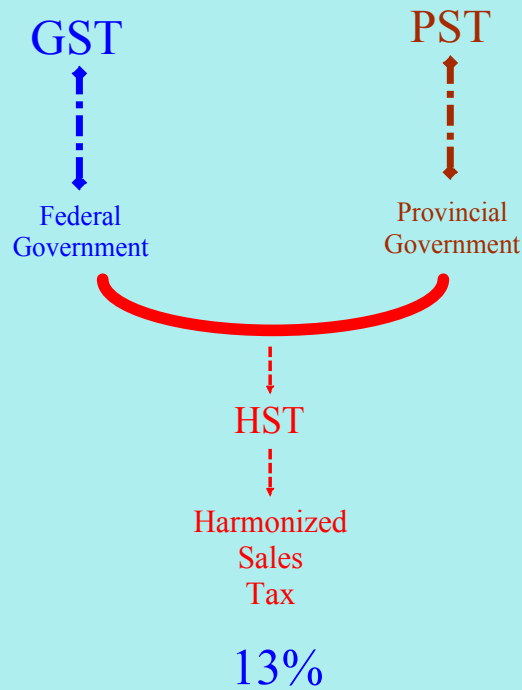


Section 5.4 - Sales Tax and Discount

Every time you purchase something, sales tax is added to your purchase price. The sales tax is determined by your province and is described as a percent. The sales tax is a combined rate of G.S.T and P.S.T.



Example # 1: If you purchase a pair of hockey skates selling for \$180.00 in NL...

- How much sales tax is added on?
- What is the total price?

NL-13%

a) $a\% \text{ of } b = c$
 $13\% \times 180.00 = c$ Sales Tax = \$23.40
 $0.13 \times 180.00 = c$
 $c = 23.40$

b) $Total\ Cost = Original\ cost + Sales\ Tax$
 $T = 180.00 + 23.40$
 $T = 203.40$
Total Cost of Skates = \$203.40

Example # 2: Jason purchases a hockey stick that has a sticker price of \$74.99. Find the total price Jason must pay for the stick and also find the amount of the total price that is GST and what amount is PST.

13% - NL

$$a\% \text{ of } b = c$$

$$13\% \times 74.99 = c$$

$$0.13 \times 74.99 = c$$

$$c = 9.75$$

$$\begin{aligned} \text{Total cost of the stick} &= 74.99 + 9.75 \\ &= \$84.74 \end{aligned}$$

GST-6 %

$$a\% \text{ of } b = c$$

$$6\% \times 74.99 = c$$

$$0.06 \times 74.99 = c$$

$$c = 4.50$$

PST-7%

$$a\% \text{ of } b = c$$

$$7\% \times 74.99 = c$$

$$0.07 \times 74.99 = c$$

$$c = 5.25$$

Example # 3: While on vacation in Alberta you purchased a new digital camera priced at \$189.00.

- a) What was the sales tax?
- b) What was the total price?
- c) How much would the same camera cost in NL?

NL - 13%

$$a\% \text{ of } b = c$$

$$13\% \times 189.00 = c$$

$$0.13 \times 189.00 = c$$

$$c = 24.57$$

AB - 6%

$$a\% \text{ of } b = c$$

$$6\% \times 189.00 = c$$

$$0.06 \times 189.00 = c$$

$$c = 11.34$$

Worksheet 105

Discounts / Sales

Often a store will offer a discount on items. This means you will get a reduction in price.
To calculate how much money a person spends and saves we use:

$$\text{Regular Price} - \text{Discount} = \text{Sale Price}$$

When setting up a ratio to find the regular price, discount or sale price, percentages go on one side of the ratio and the dollar values go on the other side of the ratio

*Remember: regular prices are opposite 100%

There are 3 possible ways a discount problem can be written:

#1. (Given a% and b, looking for c)

For the upcoming sale the manager of Athletes World reduced the prices of the sneakers by 25%. If a pair of Nike shoes were originally priced at 139.00, what is the reduced sale price?

original price: \$139
discount: 25%

$$\begin{aligned} a\% \text{ of } b &= c && \text{The} \\ 25\% \times \$139 &= c \\ 0.25 \times 139 &= c \\ \$34.75 &= c \end{aligned}$$

The discount is \$34.75. Therefore:

$$\begin{aligned} \text{Regular Price} - \text{Discount} &= \text{Sale Price} \\ \$139 - \$34.75 &= \$104.25 \end{aligned}$$

The sale price is \$104.25.

or

$$100\% - 25\% = 75\%$$

(is what he pays if he gets 25% off)

$$\frac{139}{\text{sale price}} = \frac{100}{75} \quad (\text{discount percentages})$$

* cross multiply *

$$\begin{aligned} 139 \times 75 &= 100 \times \text{sale price} \\ 10435 &= 100 \times \text{sale price} \\ 10435 \div 100 &= \text{sale price} \\ 104.35 &= \text{sale price} \end{aligned}$$

Therefore the sale price is \$104.35

#2. What is the rate of discount(% off) if a pair of skis regularly priced at \$850.00 are sold for 650.00?

a% of b= c (where you are looking for a%)

First figure out how much of a discount we get.

$$\$850.00 - \$650.00 = \$200.00 \text{ off}$$

$$a\% \text{ of } b = c$$

$$a\% \times 850.00 = 200.00$$

$$a\% = 200.00 \div 850.00$$

$$a\% = 0.23529$$

$$a = 0.23529 \times 100$$

$$a = 23.5\%$$

The rate of discount was 23.5%.

* or *

$$\frac{\$850}{\$650} = \frac{100\%}{?} \quad \text{cross multiply}$$

$$\$650 \times 100 = 850 \times ?$$

$$65000 = 850 \times ?$$

$$65000 \div 850 = ?$$

76.5% was paid of the regular price

THEREFORE:

$$100\% - 76.5\% = 23.5\% \text{ was the discount.}$$

#3. After receiving a discount of 20%, Josh paid \$54.00 for a hoodie. What was the regular price?

regular price is 100%
sale price is $100\% - 20\% = 80\%$

regular price = $\frac{100\%}{80\%}$ cross multiply
\$54.00

$$54 \times 100 = 80 \times \text{regular price}$$

$$5400 = 80 \times \text{regular price}$$

$$5400 \div 80 = \text{regular price}$$

$$67.5 = \text{regular price}$$

The regular price of the hoodie is \$67.50.

Worksheet 103

Percent Problems

1. Two stores offer different discount rates as follows...

Store A: 50% off one day only

Store B: 25% off one day followed by 25% off the reduced price the second day.

Which store has the better sale?

2. Jenny collects hockey cards. She had 150 cards in her collection. Her birthday was in June and her friends gave her hockey cards as presents which increased her collection by 20%. At Christmas her hockey card collection increased by another 15%. How many cards are in her collection after this 15% increase?

Section 5.4

Text Book: p. 260, #'s 4 - 11, 13, 15, 17

Work Book: 110 - 111

Mid Unit Review: p. 263

Quiz