

Chapter 8: Percents**Section 8.5 - Percent and financial literacy****Types of Sales Tax****GST** - government sales tax

- 5%

- Federal Government

PST - provincial sales tax

- 7%

- provincial government

HST - harmonized sales tax

- gst + pst 12%

- used in some provinces

Example**Key Points**

A bike costs \$850 plus 5% GST and 7% PST. What is the total cost of the bike after tax?

$$\text{Total tax} = 5\% + 7\% = 12\%$$

$$\$850 + 12\% \text{ tax.}$$

$$\$850 \times 0.12 = \$102$$

$$\$850 + \$102 = \boxed{\$952}$$

Combined percent.

$$\$850 + 12\% \text{ tax.}$$

$$100\% + 12\% = 112\%$$

$$\$850 \times 1.12 = \boxed{\$952}$$

- Paying tax is like having a **percent increase** to our original price

- Since we are taking 5% gst and 7% pst of the same value we can **combine the percents**

- Find **12% of \$850** and **add it**

or

- Find **112% of \$850**

Try it out:

- 1) A pair of shoes costs \$65.99 plus tax (5% gst and 7% pst). What is the total price of the shoes after tax? (\$73.90)

- 2) You paid \$125.58 for a winter jacket. What was the original price and how much tax did you pay? (\$112.125 original, \$13.46 in tax)

Sale discounts

Example - A pair of pants costs \$34.99 and are on sale for 25% off plus tax. How much do you end up paying for the pants?

Key Points

Discount - 25%.

$$34.99 \times 0.25 = \$8.75$$

$$34.99 - \$8.75 = \$26.24$$

$$26.24 + 12\% \text{ tax.}$$

$$26.24 \times 0.12 = \$3.15 \quad (\$3.1488)$$

$$26.24 + \$3.15 (\text{tax}) = \$29.39$$

100% - 25% = 75% ← what is left to pay after discount.

must pay all of this (100%) + 12% tax.

So...

112% of 75% of \$34.99

$$1.12 \times 0.75 \times \$34.99$$

$$= \$29.39$$

combined percent and percent of a percent.

Method 1 - calculate %'s separately

- A 25% discount is the same as a **25% decrease**.
 - Find 25% and subtract from original price
- GST (5%) and PST (7%) make up a **12% increase**
 - Find 12% and add to the **sales price**

Method 2 - combined percents and percent of a percent

- A 25% discount means you only pay **75% of the original price**
- A 12% sales tax (GST + PST) means you pay **112% of the sales price**

Example - A telescope is on sale for 20% off. There is a summer sale event going which means there is an additional 30% discount on all sale prices. The telescope's original price is \$400 plus tax. How much would you end up paying for the telescope?

Key Points

First discount

$$400 \times 0.2 = 80$$

$$400 - 80 = \$320$$

Second discount

$$320 \times 0.3 = 96$$

$$320 - 96 = \$224$$

Tax (12%)

$$224 \times 0.12 = 26.88$$

$$224 + 26.88$$

$$= \$250.88$$

Finding %'s separately

Combined percent and percent of a percent

First discount

$$100\% - 20\% = 80\%$$

Second discount

$$100\% - 30\% = 70\%$$

100% of discount price.

Tax

$$100\% + 12\% = 112\%$$

112% of 70% of 80% of 400

$$1.12 \times 0.7 \times 0.8 \times 400$$

$$= \$250.88$$

Name:

Math 8

Date:

Try it out:

1. Josh is buying a skateboard while shopping in Bellingham, Washington, where the sales tax rate is 8.7%. The regular price is \$128, but it is on sale for 20% off. Determine the total cost of the skateboard. $\$111.31$

2. Kayla is buying a craft kit that has a regular price of 89\$ but is on sale for 25% off. The store is holding a one-day sale in which the craft kit will be put on clearance for 60% off the already reduced price.
 - a. What is the final sale price of the craft kit? $(\$26.70)$

 - b. What single overall percent discount is this combination of discounts equivalent to? (30%)

Practice Assignment: page 291 # 1, 5, 6, choose 3 apply questions (**Challenge:** # 15, 18, 19)

optional $\rightarrow$ for those who want to push themselves and aim for a higher understanding.