

# D: Combining Percents

## I: Tax Percents

GST: Goods & Services Tax 5%

PST: Provincial Sales Tax (Depends on the Province)  
Alberta does not have this

### Examples:

1. You buy the following:

- 2 Hamburgers \$3.99 ea.
- 1 Fries \$1.69 ea.
- 1 Pop \$0.99 ea.

Find the total cost including GST @ 7% PST.

Cost without Tax

$$2(3.99) + 1.69 + 0.99$$

$$= 7.98 + 1.69 + 0.99 = \$10.66$$

Cost with GST

$$\$10.66 \times 5\%$$

$$= \$10.66 \times 0.05$$

$$= \$0.53 \text{ (GST ONLY)}$$

Cost with PST

$$\$10.66 \times 7\%$$

$$= 10.66 \times 0.07$$

$$= \$0.75$$

Cost + GST + PST

$$\text{TOTAL COST} = \$10.66 + \$0.53 + \$0.75$$

$$= \$11.94$$

2. If a shirt costs \$32.99 and a pair of shoes \$109.56. Determine the total cost for a person living in Alberta; a person living in ~~Quebec~~ Quebec (9.5% PST).

Alberta

$$\text{Cost without Tax} \quad 32.99 + 109.56$$

$$= \$142.55$$

GST

$$\$142.55 \times 5\%$$

$$= \$142.55 \times 0.05$$

$$= \$7.13$$

No PST

TOTAL:

$$\$142.55 + \$7.13$$

$$= \$149.68$$

Quebec

GST (Same as Alberta)

$$\$7.13$$

PST

$$\$142.55 \times 9.5\%$$

$$= \$142.55 \times 0.095$$

$$= \$13.54$$

TOTAL

$$\$142.55 + \$7.13 + \$13.54$$

$$= \$163.22$$

## § II: Percent of a Percent

Example:

3. A school's student population increased over two years. The 1st year it increased by 6% The second by 3%. Find the population after the second year if the original population was 412 students.

Year 1

$$412 \times 6\%$$

$$= 412 \times 0.06$$

$$= 24.72$$

$$= 24 \text{ people}$$

$$412 + 24 = 436$$

Year 2

$$436 \times 3\%$$

$$= 436 \times 0.03$$

$$= 13.08$$

$$= 13$$

$$436 + 13 = 449 \text{ students}$$

Assign. Pg. 148 # 4-8 4.4 # 5-8