

Name: _____

Date: _____

Math 8 HW Section 3.4 Applications of Percentages:

1. Given the following chart, find the total price after tax.

Items	Price	Tax (HST 12%)	Total Cost
Textbook	<u>\$85.00</u>	$= 85(0.12) = 0.12(85) = 10.20$	$= 85(1.12) = 95.20$
Bicycle	\$545.00	$= 545(0.12) = 65.40$	$= 545(1.12) = 610.40$
Mac Book Pro ✓	\$2500.00		
Honda Civic 2012 ✓	\$16,500		
(Challenge) Rolex Watch	$8176 \div 1.12 = 7300$	$= 7300 \times 0.12 =$	\$8,176

2. Carole works as a life insurance agent and earns
- 35% commission
- on all her sales. If her total sales last year was
- \$1,250,000
- how much commission did she earn?

$$\text{Amount} = 1,250,000 \times 0.35 \\ = \underline{\underline{\$437,500}}$$

3. Kobe went to the Nike store to buy a pair of basketball shoes. The retail price is
- \$175
- and tax is
- 12%
- . How much does he need to pay?

$$\begin{aligned} 175(0.12) &\leftarrow \text{TAX-ONLY} \\ \text{Amount} &= 175(1.12) \leftarrow \text{TOTAL COST} \\ 175 + 0.12 &\leftarrow \text{WEARING} \end{aligned}$$

4. Sally went to Aritzia to buy a dress with a retail price of
- \$88
- . She waited till Boxing Day and the dress is discounted at
- 25% off
- . How much is the dress now?

$$\begin{aligned} 100\% &= (25\%) + 75\% \\ &= 88 \times 1.75 \leftarrow \\ \text{Price} &= 88 \times 0.25 \leftarrow \\ &= 88 \times 1.25 \leftarrow \\ &= 88 \times 0.75 \leftarrow \end{aligned}$$

5. Tiffany went to Bestbuy to buy a
- \$3200 Samsung TV
- , a
- \$1200 Stereo system
- , and a
- \$350 Bluray Player
- . How much is the total cost including tax?

$$\begin{aligned} \text{Total} &= (3200 + 1200 + 350)(1.12) \\ \text{Cost} &= \underline{\underline{\$5320}} \end{aligned}$$

6. Bob went to Tim Horton's to buy lunch for himself and his two friends. If lunch is worth
- \$7.50
- , how much is the
- total price after tax
- ?

$$\begin{aligned} \text{TOTAL} &= 7.50 \times 1.12 \\ \text{Cost} &= \underline{\underline{\$8.40}} \end{aligned}$$

7. Bill bought a \$300 watch on sale for \$280. What is the percentage discount?

$$\text{Discount \%} = \frac{20}{300} = 0.0\overline{6666} = 6.\overline{6}\% \approx 6.7\% \leftarrow$$

8. Microsoft's stock price is currently listed at \$650.00. If the stock price increases by 10% today and then decreases by 5% tomorrow, what will the stock price be?

$$\text{stock price} = \$650.00 \times (1.10) \times (0.95) = 679.25$$

9. A pair of earphones went on sale at Bestbuy at 10% off. Two weeks later, the earphones went on another 10% off. The same set of earphones is on sale at Futureshop at 20% off. Which store is selling them at a cheaper price?

Bestbuy

$$\frac{9}{10} \times \frac{9}{10} = \frac{81}{100} \quad \$100 (0.90)(0.90) = 100 \times (0.81)$$

Futureshop

$$\$100 (0.80) = \$80.00$$

10. Alice bought a new car at \$45,000 and each year the worth of the car depreciates by 10%. What is the worth of the car after each of the first 5 years? Show all your work and steps.

$$= (\underline{45,000}) \times \underline{0.90} \times \underline{0.90} \times \underline{0.90} \times \underline{0.90} \times \underline{0.90}$$

11. Two different companies are offering two different sales on the same product. The first company offers three discounts at 5% off, then 10% off and then 5% off. The second company offers only one discount at 20% off. Which company is offering a lower price?

1st company

$$= \$100 (0.95)(0.90)(0.95) = \$81.225$$

2nd company

$$= \$100 \times (0.80) = \$80$$

- b) If the product is worth \$1200 how much cheaper is lower price?

12. At the SOURCE, the cost of a DVD movie is marked up by 40%. On Boxing day, they have a sale at 25% off. If the DVD is worth \$30, how much money does the company make?

$$= \$30(1.40)(0.75) = \underline{\underline{\$31.50}}$$