

MPM 1D Unit 1 Handout #7
Applications of Percent

Date:

Name:

When you are doing real life problems, make sure that your answers make sense! If they don't, rethink your approach!

For each problem you must write a concluding statement and show your work!!

Apply the Math

1. Jacquelyn received 96 of 120 marks on one of her final exams last semester. What was her mark, as a percent?

$$\frac{96}{120} \times 100\% = 80\%$$

2. During the 2014 Winter Olympics, Canada won 10 gold medals, 9 silver medals, and 5 bronze medals.

- a. How many total medals were won? $(10 + 9 + 5)$

24 medals

- b. What percent of our medals were gold? Silver? Bronze?

Gold: $\frac{10}{24} \times 100 = 41.7\%$

Silver: $\frac{9}{24} \times 100 = 37.5\%$

Bronze: $\frac{5}{24} \times 100 = 20.8\%$

3. Avery works at a clothing store. She earns \$140 per week plus 8% commission on her sales. Last week she sold \$1550 worth of clothing. How much did she earn for the week?

Commission: 8% of 1550
 $0.08 \times 1550 = \$124$

Earnings: $140 + 124 = \$264$

∴ She earned \$264.

4. Jack bought a new computer to start high school. The original price was \$950, but it was on sale for 40% off.

- a. Calculate the amount of the discount.

$0.40 \times 950 = \$380$ ∴ He saves \$380.

- b. Determine the sale price of the computer.

$950 - 380 = \$570$ ∴ The sale price is \$570

- c. Find the after tax price for the computer.

$570 \times 1.13 = \$644.10$ ∴ The total is \$644.10

5. Jaydon wants to buy a pair of skates at Sportchek. He has a gift card for \$100. The skates are regularly \$149.99, but they are on sale for 30% off.

- a. Determine the sale price of the skates.

$$0.3 \times 149.99 = \$45.00 \text{ off} \quad \text{Sale price} = 149.99 - 45 = \$104.99$$

- b. Find the after tax price.

$$104.99 \times 1.13 = \$118.64$$

- c. Can he afford them with his gift card? If yes, how much will remain on the card? If no, how much does he need to pay?

No, he owes \$18.64.

6. Mrs. Ryan is looking in to buying a new car that has a sticker price of \$22590. Rose City Ford offers her a 15% discount and no tax. Joe Meloche Ford offers her a 25% discount, but she will still have to pay tax. Lally Ford offers her \$5000 off of the price, but she will still have to pay tax. Where should she buy her car?

<u>Rose City</u>	<u>Joe Meloche</u>	<u>Lally</u>
$0.15 \times 22590 = \$3388.50$ Sale price $22590 - 3388.50 = \$19201.50$	$0.25 \times 22590 = 5647.50$ Sale price $= 16942.50$ After tax $16942.50 \times 1.13 = \$19145.03$	Sale price: $\$17590$ After tax $17590 \times 1.13 = 19876.70$
	$\$19145.03$	← She should buy from Joe Meloche

7. Colby lost 8 marks on his last test and got a grade of 81%. What was the test out of?

8 marks is 19% of the total score.

$$\frac{19}{100} = \frac{8}{x}$$

$$19x = 800$$

$$x = 42.1$$

∴ The test was out of 42 marks (check: $\frac{34}{42} \times 100 = 81\%$)

← 118% of the price!

8. Daniel and Saad left a total of \$45.37 for their bill at a restaurant, and it included an 18% tip. How much did their dinner cost before the tip?

$$45.37 \div 1.18 = \$38.45$$

∴ The cost was \$38.45.

9. A bag of mixed nuts guarantees that 65% of the nuts will be almonds. If there are 132 almonds in the bag, what is the total number of nuts?

$$\frac{65}{100} = \frac{132}{\boxed{203}}$$

↖ x2.03 ↘
↙ x2.03 ↘

∴ There are 203 nuts in the bag.