

Financial Mathematics Exam Review

Skill 1: Percent Decrease

1. Mrs. Bain bought her first car for \$9900. Two years later she sold it for \$5000. What was the percent decrease in value?

$$\frac{9900 - 5000}{9900} \times 100 = 49.49\%$$

Skill 2: Unit Pricing

\$ / unit

price per unit

2. Large families go through a lot of cereal! Mom checks out prices at Costco and sees that large 1 kg \rightarrow 1000g boxes of Cheerios are sold at regular price for \$7.99. At Superstore, Cheerios is on sale for \$4.99 for 400 g.

a) Which box of Cheerios is a better price (show your work)?

$$\text{Costco } \$7.99 / 1000 \text{ g} = \$0.00799/\text{g}$$

$$\text{Superstore } \$4.99 / 400 \text{ g} = \$0.012475/\text{g}$$

b) What other factors may influence her decision?

how much she wants flavor

don't want to go to Costco membership

Do I want to wait in long lines

Skill 3: Currency Conversions

3.

A Japanese tourist arrives in PEI with ¥15,000 in spending money for souvenirs. The table shows the exchange rate at that time.

Japanese Yen	Canadian Dollar
1	0.012134
82.413	1

How much is ¥15,000 in Canadian dollars (use proportions).

$$\text{¥ } 15\,000 \cdot \frac{\text{C\$ } 0.012134}{\text{¥ } 1} = \text{\$ } 182.01$$

Skill 4: Wages

4. If a person earns \$100,000 per year, what is their:

a) weekly pay $\$100,000 / 52 = \$1923.08/\text{week}$

b) monthly pay $\$100,000 / 12 = \$8333.33/\text{month}$

c) biweekly pay $\$100,000 / 26 = \$3846.15/\text{biweekly}$

d) semi-monthly pay $\$100,000 / 24 = \$4166.67/\text{semi-monthly}$

Skill 5: Gross Pay and Wages/Commission/Piecework/etc

3. Ashley is a personal care worker at a nursing home. This week she worked five overnight shifts:

Monday	Tuesday	Wednesday	Thursday	Friday
11:00p m – 6:00am	12:00am – 7:00am	11:00pm – 5:00am	12:00am – 7:00am	11:00p m – 4:00am

- 7 7 6 7 5
- How many hours will she work this week?
 - Ashley earns \$13.50 per hour. She also earns an extra \$2 per hour for overnight shifts. What is this extra money called (key term)?
 - What is Ashley's gross pay for the week?
 - Assume Ashley works the same schedule every week this month. If she is paid biweekly, how much will she receive for each pay?

32 hours

Shift premium

$$(13.50 + 2.00)(32) = \$496.00$$

$$\$496.00 \cdot 2 = \$992.00$$

6. Karl is a waiter who earns \$11 per hour. He works 32 hours per week and receives \$260 in tips for the week. What is his gross pay for the week?

$$32(11.00) + 260 = \$612.00$$

- * 7. You work at Forever 21 and make 4% commission on your sales. Last week your commission totalled \$56.50. What was your total sales for the week? $s \rightarrow$ sales

$$\frac{0.04s}{0.04} = \frac{56.50}{0.04}$$

$$s = \$1412.50$$

Skill 6: Net Pay/Gross Pay/Deductions

5 pays

8. Fill in the missing sections for the following weekly pay stub. Vacation pay is 4% of gross income.

Earnings					Deductions		
Type	Hours	Rate	Amount	YTD	Type	Current	YTD
Regular	40	12	480	2400	Income Tax	96.31	481.55
Overtime	5	24	120	600	EI	11.73	58.65
Vacation Pay 4%			24.00	120	CPP	27.56	137.80
Summary	Gross Pay			Deductions		Net Pay	
Current	624.00			135.60		448.40	
Year To Date	3120.00			678.00		2442.00	

Skill 7: EI and CPP (Deductions)

$$\$34\,500 - \$816.00 = 33\,684$$

9. If Sheldon's gross annual salary last year was \$34 500 and he paid \$816.00 in union fees, calculate his net annual salary.

Calculate

$$1. \text{EI} = 0.0166 (33\,684) = \$559.15$$

$$2. \text{CPP} = 0.0495 (33\,684 - 3\,500) = \$1\,494.11$$

NOTES:

CPP	4.95% (minus \$3500) to a max of \$2593.80
EI	1.66% to a max. of \$858.22
Vacation pay is 4% (part of gross income)	