

Name: \_\_\_\_\_

## UNIT 8 LEARNING GUIDE – FINANCES

**INSTRUCTIONS:**

Using a pencil, complete the following questions as you work through the related lessons. Show ALL of your work as is explained in the lessons. Do your best and always ask questions if there is anything that you don't understand.

**8.1 HISTORY OF FINANCE**

1. Classify each example as barter or money.

	Barter	Money
a. Trading doing the dishes for a hamburger.	<input type="checkbox"/>	<input type="checkbox"/>
b. Exchanging \$10 for a movie ticket	<input type="checkbox"/>	<input type="checkbox"/>
c. An exchange using coins or banknotes.	<input type="checkbox"/>	<input type="checkbox"/>
d. J.T. gets a new car and pays for it with his credit card.	<input type="checkbox"/>	<input type="checkbox"/>
e. Mr. R traded Mr. B two chickens for a leather belt.	<input type="checkbox"/>	<input type="checkbox"/>
f. The trading of one service for another service.	<input type="checkbox"/>	<input type="checkbox"/>
g. Trading seven dollars for a hamburger.	<input type="checkbox"/>	<input type="checkbox"/>
h. Simi gives Jim her cookies in exchange for him cleaning her desk.	<input type="checkbox"/>	<input type="checkbox"/>

2. The 5 steps of Material Consumption are listed below, but they are not in order.

**Consumption    Distribution    Extraction    Disposal    Production**

a. Order the steps that "stuff" moves through.

- |      |     |
|------|-----|
| i.   | iv. |
| ii.  | v.  |
| iii. |     |



<b>8.2 SAVING MONEY</b>
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1. Classify each example as a *need* or a *want*.

	Need	Want
a. The newest style of runners.		
b. A warm jacket.		
c. Healthy breakfast food.		
d. Netflix or cable TV		
e. Medicine if you are sick.		
f. Shelter (an apartment, house, etc.)		
g. Chocolate bars.		
h. Swimming lessons.		

2. Meredith wants to save up for a new bike which costs \$1100. She earns \$165 per **week** as a dishwasher. If she saves all her money each week, how long will it take her to save up enough money for the bike?
3. Alex wants to purchase a drafting table that costs \$315. He plans on saving half of his paycheck each **month** in order to save up for this purchase. His average monthly earnings are \$235. How long will it take him to save up enough for the drafting table?
4. What does each letter stand for in a S.M.A.R.T. budget?
- S** \_\_\_\_\_
- M** \_\_\_\_\_
- A** \_\_\_\_\_
- R** \_\_\_\_\_
- T** \_\_\_\_\_

5. Create a SMART budget for yourself by following the steps below. You can choose to use the amount of money that you earn now, or you can use an amount that you hope to earn in your first job.

**Step 1:** Add up all of the money that you earn in one month.

Total monthly income: \_\_\_\_\_

**Step 2:** Write down how much money you want to save and what you want to save it for.

Savings goal: \_\_\_\_\_

**Step 3:** Write down what you normally spend your money on each month.

Total monthly expenses: \_\_\_\_\_

**Step 4:** Subtract your expenses from your income. This is the amount that you can put into savings.

Total amount into savings per month: \_\_\_\_\_

**Step 5:** Compare your *Savings Goal* and how much you can put into savings each month. How long will it take for you to reach your *Savings Goal*?

6. Use the questions below to determine if the budget that you created in Question 5 is a S.M.A.R.T. budget.

Specific: Are you specific with what you are saving for?

Measurable: Do you know exactly how much you need to save?

Attainable: Are you able to reach your goal if you stay on track?

Realistic: Looking at your finances, is this budget realistic?

Timely: Is your budget able to get you what you're saving for in a reasonable amount of time?

7. Based on your answers to Question 6, write down any changes that you need to make to your original budget.

**8.3 PERCENTAGE DISCOUNTS**

1. Find 10% of each number. Reminder: To find 10% of a number, move the decimal one place to the left. If a number doesn't have a decimal, we can place one at the end.

Ex. 280

**28**

c. 94

f. 75

a. 160

d. 450

g. 8

b. 40

e. 1200

h. 32

2. Fill in the table. Use the value of 10% of each number to determine how much 5% and 20% will be. Reminder: 5% of a number will be **half** of the value of 10% of that number. 20% of a number will be **double** the value of 10% of that number.

	Original Amount	10% of Original Amount	5% of Original Amount	20% of Original Amount
Ex.	120	<b>12</b>	<b>6</b>	<b>24</b>
a.	40			
b.	100			
c.	80			
d.	30			
e.	260			
f.	5200			

3. Find 50% of each number. Reminder: To find 50% of a number, divide that number by 2.

Ex. 68

$$68 \div 2 = 34$$

c. 210

f. 2

a. 42

d. 58

g. 7

b. 30

e. 600

h. 5000

4. Combine your skills from Questions 1 – 3 to determine the following values.

**Ex.** 25% of 70

d. 60% of 18

$$10\% \text{ of } 70 = 7$$

$$20\% \text{ of } 70 = 14$$

$$5\% \text{ of } 70 = 3.5$$

$$20\% + 5\% = 25\%$$

$$14 + 3.5 = 17.5$$

$$\mathbf{25\% \text{ of } 70 = 17.5}$$

a. 25% of 30

e. 55% of 2000

b. 30% of 40

f. 60% of 550

c. 15% of 140

g. 45% of 90

5. Use cross-multiplication to determine each amount.

Ex. What is 30% of 36?

$$\frac{y}{36} = \frac{30}{100}$$

$$y \times 100 = 36 \times 30$$

$$y \times 100 = 1080$$

$$y = \frac{1080}{100}$$

$$y = 10.8$$

**30% of 36 is 10.8**

b. What is 42% of 50?

$$\frac{y}{50} = \frac{42}{100}$$

$$y \times 100 = \underline{\quad} \times \underline{\quad}$$

$$y \times 100 =$$

$$y = \frac{\quad}{100}$$

$$y =$$

a. What is 75% of 16?

$$\frac{y}{16} = \frac{75}{100}$$

$$y \times 100 = \underline{\quad} \times \underline{\quad}$$

$$y \times 100 =$$

$$y = \frac{\quad}{100}$$

$$y =$$

c. What is 85% of 200?

6. Follow the steps to determine the sale price of each item.

**Step 1:** Find the amount of the discount. (*Original price*  $\times$  % off)

**Step 2:** Find the sale price. (*Original price*  $-$  Amount of discount)

Ex. Original Price: \$39.00

Discount 15% off

$$\$39.00 \times 0.15 = \$5.85$$

$$\$39.00 - \$5.85 = \mathbf{\$33.15}$$

b. Original Price: \$108.75

Discount 43% off

a. Original Price: \$16.00

Discount 28% off

c. Original Price: \$1459.99

Discount 9% off



7. Fill in the table. Reduce fractions to lowest terms.

	Percent	Decimal	Fraction
<b>Ex.</b>	<b>75%</b>	0.75	$\frac{75}{100} = \frac{3}{4}$
a.		0.09	
b.	65%		
c.			$\frac{1}{2}$
d.			$\frac{7}{20}$
e.	5%		
f.		0.02	

8. Solve the following problems.

- a. The price of one case of medicine is \$75.00. A pharmacy is ordering three cases and will receive a 12% discount. What is the amount of the discount? What is the cost for all three cases (excluding taxes)?
  
- b. At The Jean Warehouse the jeans you want to purchase are 20% off the original price of \$54.99. The same pair of jeans has the same price at Jean's World, but there you get \$15 off any pair of jeans. Where would you get the best deal on these jeans?

## 8.4 PERCENTAGE INCREASES

1. Calculate the price of each item after taxes. Use the following values for each tax: GST 5%, PST 7%.
 

**Ex.** Price: \$8.95 + GST & PST

$$0.05 + 0.07 = 0.12$$

$$\$8.95 \times 1.12 = \mathbf{\$10.02}$$

b. Price: \$230.50 + GST only

a. Price: \$22.45 + GST & PST

c. Price: \$1575.42 + GST & PST
  
2. In your own words, describe inflation.
  
3. The rate of inflation for this year is estimated to be 1.9%. If you are currently earning \$16.00 per hour, how much would you need to make next year to keep up with inflation?
  
4. Jon takes a taxi and the final charge is \$31.60. How much would he pay in total if he wanted to leave a 10% tip?
  
5. At restaurants in BC, only GST is added to food and non-alcoholic beverages. Fill in the missing information on the restaurant bill below, leaving a 16% tip. *Reminder: Tips are calculated on the total before taxes.*

<i>Pasta Palace Restaurant</i>			
Item	Quantity	Price	Amount
Spaghetti Special	2	\$13.99	\$27.98
Lasagna	1	\$19.99	\$19.99
Chef's Salad	1	\$14.99	\$14.99
Garlic Bread	2	\$3.99	a.
Soft Drinks	4	\$3.19	b.
Apple Pie	2	\$5.29	\$10.58
Cheesecake	2	c.	\$11.78
Subtotal			d.
GST			e.
Gratuity (Tip)			f.

<b>Total</b>	g.
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### 8.5 COMPARING PRICES

1. Convert each fraction to a decimal without a calculator.

Ex.  $\frac{1}{6} \overset{0.22}{9)2.00} = 0.\overline{2}$

b.  $\frac{7}{8}$

d.  $\frac{3}{9}$

a.  $\frac{2}{5}$

c.  $\frac{3}{11}$

e.  $\frac{9}{20}$

2. Find the unit price of each item.

a. 6 dish sponges for \$9.88  
 $\$9.88 \div 6 = \$1.65$   
**\$1.65 per sponge**

d. A dozen whole wheat buns for \$7.50



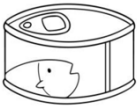
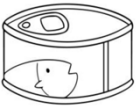
b. 24 rolls of toilet paper for \$16.48

e. 825 grams of almonds for \$23.41 (Find the price per 100g)

c. A box of 36 crackers for \$4.49

f. 2 litres of orange juice for \$6.99 (Find the price per 100 mL)

3. Calculate which item is the better buy based on unit price.

	Item A	Item A Unit Rate	Item B	Item B Unit Rate	Which is the better buy?
a.	 500 mL \$7.99		 750 mL \$10.99		
b.	 \$4.45 for 2		 \$6.89 for 3		

## 8.6 BANKING

1. Below are some examples of money deposited into savings accounts. Determine the amount of interest earned and the final balance in each example.

**Ex.** Opening balance: \$1250

Interest Earned: **\$30**

Annual Interest rate: 1.2%

Final Balance: **\$1280**

Length of savings period: 2 years

$$1.2\% = 0.012$$

$$\$1250 \times 0.012 \times 2 \text{ years}$$

$$\mathbf{\$30}$$

$$\$1250 + \$30 = \mathbf{\$1280}$$

a. Opening balance: \$5000

Interest Earned: \_\_\_\_\_

Annual Interest rate: 2.5%

Final Balance: \_\_\_\_\_

Length of savings period: 1 year

b. Opening balance: \$1000

Interest Earned: \_\_\_\_\_

Annual Interest rate: 4.1%

Final Balance: \_\_\_\_\_

Length of savings period: 5 years

c. Opening balance: \$15 000

Interest Earned: \_\_\_\_\_

Annual Interest rate: 0.9%

Final Balance: \_\_\_\_\_

Length of savings period: 6 months

2. Below are some typical examples of payday loans. Determine the amount of interest charged, the annual interest rate and the total amount to be paid back for each situation.

**Ex.** Amount Borrowed: \$525

Borrowing Fees: \$18 per \$100 borrowed

Length of borrowing period: 2 weeks

$$\$525 = 5.25 \text{ hundreds}$$

$$5.25 \times \$18 = \$94.50$$

$$\$525.00 + \$94.50 = \$619.50$$

$$\frac{\$94.50}{\$525} = 18\%$$

$$\frac{18\%}{2 \text{ weeks}} = \frac{x\%}{52 \text{ weeks}}$$

$$x = 468\%$$

Interest Charged: **\$94.50**

Annual Interest Rate: **468%**

Total to be Paid Back: **\$619.50**

a. Amount Borrowed: \$1200

Borrowing Fees: \$16.50 per \$100 borrowed

Length of borrowing period: 2 weeks

Interest Charged: \_\_\_\_\_

Annual Interest Rate: \_\_\_\_\_

Total to be Paid Back: \_\_\_\_\_

b. Amount Borrowed: \$350

Borrowing Fees: \$29 per \$100 borrowed

Length of borrowing period: 4 weeks

Interest Charged: \_\_\_\_\_

Annual Interest Rate: \_\_\_\_\_

Total to be Paid Back: \_\_\_\_\_

3. The same borrowing situations as in Question 2 are found below; however, the lender is now the bank, rather than a Pay Day Loan company. Determine the amount of interest charged, the annual interest rate and the total amount to be paid back for each situation.

**Ex.** Amount Borrowed: \$525

Interest Rate: 6.6%

Length of borrowing period: 2 weeks

$$6.6\% = 0.066$$

$$\$525 \times 0.066 = \$34.65 \text{ (for an entire year)}$$

$$\frac{\$34.65}{52 \text{ weeks}} = \frac{\$x}{2 \text{ weeks}}$$

$$\$34.65 \div 52 \times 2 = x$$

$$x = \$1.33$$

Interest Charged: **\$1.33**

Annual Interest Rate: **6.6%**

Total to be Paid Back: **\$526.33**

a. Amount Borrowed: \$1200

Interest Rate: 7.5%

Length of borrowing period: 2 weeks

Interest Charged: \_\_\_\_\_

Annual Interest Rate: **7.5%**

Total to be Paid Back: \_\_\_\_\_

b. Amount Borrowed: \$350

Interest Rate: 9%

Length of borrowing period: 4 weeks

Interest Charged: \_\_\_\_\_

Annual Interest Rate: **9%**

Total to be Paid Back: \_\_\_\_\_

4. In your own words, describe why it takes so long to pay off a credit card debt if you are only making the minimum payments.





4. Solve the Simple Interest problems below using the method of your choice (ie. triangle method or isolating the variable.)
- Keegan deposited \$700 into his bank account. After one year, his bank account balance was \$761.60. What interest rate did he earn?
  - At the end of his 3-year borrowing period, Skye owed \$4635.55. His interest rate was 3.9%. What was the original amount of the loan?
  - Johanna wants to wait until her bank account balance is \$15 000 before she withdraws any money. She initially deposited \$12 500 and is earning an interest rate of 4.6%. How long will it take for her principle amount to reach her goal amount?
  - Isabel bought a new TV for \$800. She didn't have to pay for 20 months, but she owed \$986.67 at the end of the 20 months. What interest rate was she charged?
  - Thirty-two weeks after he borrowed \$7500 from the bank, Joaquin wanted to pay off his loan. What does he owe if he was charged an annual interest rate of 6.1%?

<b>8.8 WORKING &amp; INCOME</b>
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1. In your own words, define the following terms:
  - a. Gross Income:
  
  
  - b. Net Income:
  
2. Ronan earns \$14.00 an hour working at a local restaurant. Last week he worked 52 hours. Calculate his gross earnings for the week if he is paid overtime after 40 hours and the overtime rate is 1.5 times the regular pay rate.
  
  
  
  
  
  
  
  
  
  
3. Kamal earns \$15.40 an hour at his job. He is paid time and a half (ie. 1.5 times his regular rate) if he works more than eight hours in a day. Use his schedule below to calculate his gross earnings for the week.
  - Monday: 6 hours
  - Tuesday: 8 hours
  - Thursday: 6 hours
  - Friday: 10 hours
  - Saturday: 11 hours
  
  
  
  
  
  
  
  
  
  
4. An employee earns 5% commission on all sales. What would be their earnings on \$16 630 in sales?
  
  
  
  
  
  
  
  
  
  
5. Jaspreet earns a salary of \$1000 a month as well as 8% commission on all sales. Last month her sales totaled \$48 000. What were her gross earnings last month?

6. The Hagen family is selling their home for \$420 000. Their realtor charges 6% on the first \$100 000, then 2% on the remainder. What will the total cost of the realtor's commission be?
  
  
  
  
  
  
  
  
  
  
7. Lee works as a tree planter during the summer and gets paid \$0.13 per tree that he plants. He plants 62 346 trees, but 155 get rejected. What are his gross earnings for the summer?
  
  
  
  
  
  
  
  
  
  
8. Sarah works as a server at a restaurant and is paid \$11.75 an hour. On Friday, she worked 8 hours and averaged 13% tips on \$954.30 of food served. What was her gross income on Friday?
  
  
  
  
  
  
  
  
  
  
9. Braeden works as a server at a restaurant and is paid \$11.30 an hour. Last week, he worked 18 hours and averaged 15% tips on \$2410.09 of food served. What was his gross income last week?

## 8.9 INCOME DEDUCTIONS

1. Calculate the **gross** and the **net** income for each situation below. *Reminder: Each deduction is calculated off of the total gross income. Hint: To determine the percentage of a number, change the percentage to decimal form, then multiply the number in question by the decimal. (Ex. 18% of \$2000 = 0.18 x 2000)*
  - a. Shayna earns \$16.00 per hour and works 19 hours in a pay period. Her deductions for this pay period total \$66.
  - b. Gurdeep earns \$26 per hour and he worked 47 in one week. He earns 1.5 times his regular wage after 40 hours worked in a week. His deductions for the week are: \$238 for Income Tax, \$65 for the Canadian Pension Plan, \$25 for Employment Insurance, \$9 for union dues, and \$40 for health insurance.
  - c. Keagan earns \$18.50 per hour and he works 80 hours in a pay period. He has the following deductions taken off of his gross pay: 18% for Income Tax, 2% for Employment Insurance.
  - d. Last year, Meadow earned a salary of \$5000 per month. Her deductions were as follows: 20% for Income Tax, 2% for Employment Insurance, 5% for the Canadian Pension Plan, \$70 per month for benefits and \$15.50 per month for union dues. Calculate her **annual** gross and net income.

2. John Smith gets paid biweekly (every two weeks.) Use his paystub below to answer the following questions.

ABC Flooring Co., 123 Any St., Smalltown, BC				EARNINGS STATEMENT		
John Smith						
EMPLOYEE ID	PERIOD ENDING			PAY DATE	CHECK NUMBER	
123456	2013/11/25			2013/11/20	321654	
INCOME	RATE	HOURS	CURRENT TOTAL	DEDUCTIONS	CURRENT TOTAL	YEAR TO DATE
REGULAR	20	80	1,600.00	CPP	65.03	1,495.69
OVERTIME	25	5	125.00	EI	28.62	658.26
				INCOME TAX	305.90	7,035.70
				UNION DUES	10.84	249.32
				LIFE INSURANCE	4.94	113.62
				LONG TERM DISABILITY	7.01	161.23
				CANADA SAVING BONDS	8.00	184.00
YTD GROSS	YTD DEDUCTIONS	YTD NET PAY	CURRENT TOTAL	DEDUCTIONS	NET PAY	
39,675.00	9,897.82	29,777.18	1,725.00	430.34	1,294.66	

- What is John’s regular hourly wage?
- How many hours did John work during this pay period?
- What was John’s net pay for this pay period?
- What was John’s gross pay for this pay period?
- What is the largest deduction from John’s pay?
- How much was deducted for Income Tax from John’s pay this pay period?
- How much has been deducted for Income Tax from John’s pay so far this year?
- What does CPP stand for?
- What does EI stand for?
- What was the total of John’s deductions this pay period?
- What percentage of John’s pay is taken off of his pay cheque for deductions?  
*Hint: Divide total deductions by gross pay.*

3. Calculate the taxable income for each situation below. *Reminder: Taxable income is the income that remains after allowable deductions have been subtracted.*
- Last week, Georgia worked 40 hours. She earns \$37.35 per hour. She pays \$8.16 per week for union dues and \$45.50 per week to a registered savings plan, which are both allowable deductions.
  
  - Jerry earns an annual salary of \$75 000. He has the following allowable deductions: \$415 annually for union dues, \$1550 in charitable donations, \$3500 annually to a registered savings plan, and the Basic Personal Amount of \$12 069. (*The Basic Personal Amount is given to everyone, and you do not pay taxes on this amount of your income.*)
4. Shanda is self-employed. Use the information below to calculate her net annual income. *Reminder: Income tax is only paid on the taxable income, not the gross income.*
- Total earnings of \$93 000
- Allowable deductions:
- \$27 375 for business expenses
  - \$450 in charitable donations
  - \$2300 to a registered savings plan
  - Basic Personal Amount of \$12 069
- Income Tax Percentage:
- 21%

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## UNIT 8 – ANSWER KEY

### SECTION 8.1

1. Barter: a, e, f, h. Money: b, c, d, g
2. a. i. Extraction, ii. Production, iii. Distribution, iv. Consumption, v. Disposal  
b. Answers may vary. Example: i. Mining for metals, ii. Overseas factory production, iii. Boats and Trucks to deliver to big box stores, iv. Cell phone used by someone in Canada for 3 years, v. Some parts recycled, some parts sent to landfill
3. Multiple possible answers. Example: excessive debt, basing happiness on material possessions
4. a. Min. b. Con. c. Con. d. Min. e. Con. f. Min.

### SECTION 8.2

1. Need: b, c, e, f Want: a, d, g, h
2. 7 weeks
3. 3 months
4. Specific, Measurable, Attainable, Realistic, Timely
5. Answers will vary.
6. Answers will vary.
7. Answers will vary.

### SECTION 8.3

1. a. 16 b. 4 c. 9.4 d. 45 e. 120 f. 7.5 g. 0.8 h. 3.2
2. a. 4, 2, 8 b. 10, 5, 20 c. 8, 4, 16 d. 3, 1.5, 6 e. 26, 13, 52 f. 520, 260, 1040
3. a. 21 b. 15 c. 105 d. 29 e. 300 f. 1 g. 3.5 h. 2500
4. a. 7.5 b. 12 c. 21 d. 10.8 e. 1100 f. 330 g. 40.5
5. a. 12 b. 21 c. 170
6. a. \$11.52 b. \$61.99 c. \$1328.59

7. a.  $9\%, \frac{9}{100}$  b.  $0.65, \frac{13}{20}$  c.  $50\%, 0.5$  d.  $35\%, 0.35$  e.  $0.05, \frac{1}{20}$  f.  $2\%, \frac{1}{50}$
8. a. Discount: \$27, Cost: \$198 b. Jean's World (\$39.99)

## SECTION 8.4

1. a. \$25.14 b. \$242.03 c. \$1764.47
2. Answers may vary. Ex. Average rise in prices over a specific period of time.
3. \$16.30
4. \$34.76
5. a. \$7.98 b. \$12.76 c. \$5.89 d. \$106.06 e. \$5.30 f. \$16.97 g. \$128.33

## SECTION 8.5

1. a. 0.4 b. 0.875 c.  $0.\overline{27}$  d.  $0.\overline{3}$  e. 0.45
2. a. \$0.69/roll b. \$0.12/cracker c. \$0.63/bun d. \$2.84/100g e. \$0.35/100 mL
3. a. Item A: 1.6¢/mL OR \$1.60/100 mL, Item B: 1.5¢/mL OR \$1.47/100 mL Best buy: Item B  
b. Item A: \$2.23 each, Item B: \$2.30 each Best buy: Item A

## SECTION 8.6

1. a. \$125, \$5125 b. \$205, \$1205 c. \$67.50, \$15 067.50
2. a. Int. Charged: \$198; Annual Int. Rate: 429%; Total: \$1398.00  
b. Int. Charged: \$101.50; Annual Int. Rate: 377%; Total: \$451.50
3. a. Interest: \$3.46; Total: \$1203.46 b. Interest: \$2.42; Total \$352.42
4. Answers may vary. Ex. The minimum payment on a credit card only covers the interest charges plus a tiny amount of the principle.

## SECTION 8.7

1. Interest, Principle, Rate (annual), Time (in years)
2. The original amount invested/deposited or borrowed.
3. a. \$60, \$560 b. \$720, \$6720 c. \$4875, \$19 875 d. \$320, \$4320
4. a. 8.8% b. \$4150.00 c. Approx. 4.35 years or 52 months d. 14% e. \$7781.54



SECTION 8.8

1. a. Total income before deductions. b. Total income after deductions.
2. \$812.00
3. \$669.90
4. \$831.50
5. \$4840.00
6. \$12 400.00
7. \$8084.83
8. \$218.06
9. \$564.91

SECTION 8.9

1. a. Gross: \$304, Net \$238 b. Gross \$1313, Net \$936 c. Gross \$1480, Net \$1184  
d. Gross \$60 000, Net \$42 774
2. a. \$20/hr b. 85 hours c. \$1294.66 d. \$1725.00 e. Income Tax f. \$305.90  
g. \$7035.70 h. Canada Pension Plan i. Employment Insurance j. \$430.34 k. 24.9%
3. a. \$1440.34 b. \$57 466
4. \$40 136.74