Name: KEY Date: _____

Chapter 2: Finance Unit Practice Test

1) Match the following terms with the definitions on the right:
(put the number of the correct description on the line after the word it describes)

a) Salary 9 b) Wage 6 c) Commission 1 d) Piecework 11 e) Gross Pay 2 f) Net Pay 10 g) Employment Insurance (EI) 4 h) Pension 8 i) Budget 5 j) Simple Interest 7 k) Compound Interest 3	1. Paid a percentage for how much you sell for a company 2. Amount you earn BEFORE deductions 3. When you earn interest on the interest, as well as the principal 4. Every Canadian who is employed pays this so that if you lose your job, you get a regular cheque from the government for a period of time 5. A recorded forecast of earnings and expenses 6. To get paid by the hour. Ex. $15/hr 7. When you pay/earn money on the principal (starting) value only 8. Money that you and your employer pay into so that you get a regular cheque to help you live after retirement. (*C.P.P. is an example*) 9. Paid a fixed yearly rate; divided and paid usually bi-weekly *(every 2 weeks)* or semi-monthly *(twice per month)* 10. Amount you earn AFTER deductions 11. Get paid by the item(s) for something you sell

2) Calcuate the **gross pay** for each scenario:

a) Annual salary of $38 600 plus 12% commission on $115 000 in sales

$115000 \times 0.12 = 13800$

$+ \quad 38600$

$\$52400$

b) 36 hr week at $13.70 plus 7 hrs 'time-and-a-half'

$36 \times 13.70 = 493.20$

$7 \times 13.70 \times 1.5 = +143.85$ (time and a half)

$\$637.05$

c) Monthly hours of 160 at $22.30 plus 48 knitted toques for $17 each

$160 \times 22.30 = 3568$

$48 \times 17 = +816$

$\$4384$

d) 9% commission for 1st $100 000 in sales then 14%. Total sales: $256 000

9% of $100000 = 0.09 \times 100000 = 9000$

14% of $156000 = 0.14 \times 156000 = +21840$

256000 − 100000 = 156000

$\$30840$

3) Janine works three jobs in the past two weeks. In the army, she makes a biweekly salary of $2500. At the pet store, she works 24 hours at $12.75/hr, and she also sells makeup and gets a 25% commission on the $600 in sales she made.

a) Calculate her combined gross pay for the two-week period.

Army: Bi-weekly = 2500

Pet Store: $24 \times 12.75 = 306$

Make-up: $600 \times 0.25 = +150$

$\$2956$

$\$2956$

b) Calculate these deductions on her total gross pay: 15% income tax, 4% CPP, 3% EI, 5% medical/dental.

Tax: $2956 \times 0.15 = 443.40$

CPP: $2956 \times 0.04 = 118.24$

EI: $2956 \times 0.03 = 88.68$

med/dent.: $2956 \times 0.05 = 147.80$

Income Tax: $\$443.40$

CPP: $\$118.24$

EI: $\$88.68$

Med/Dent: $\$147.80$

0.12

c) Her pension payment of 12% only comes off of her army pay. Calculate this.

army pay

$2500 \times 0.12 = 300$ $\quad$ $\$300$

d) Calculate her net pay for the two-week period.

net = gross − deductions

$= 2956 - 443.40 - 118.24 - 88.68 - 147.80 - 300 = \$1857.88$

(2956: from #3a; 443.40: tax; 118.24: CPP; 88.68: EI; 147.80: med/dent; 300: pension)

$\$1857.88$

4) George is a land surveyor who makes a net pay of $1907.10 every two weeks (bi-weekly). George decides to work out his budget for February, which is <u>exactly 4 weeks.</u>

a) First find his net pay for February by doubling (×2) his bi-weekly net pay

$1907.10 \times 2 = \$3814.20$

$\$3814.20$

b) Here is a Summary of Georges Budget: <u>Every deduction listed is **monthly cost**</u>.

Rent: $1100, Hydro: $130, Cell Phone: $85, TV/Internet: $128, Groceries: $340, Eating Out: $139, Clothes: $220, Investment Savings of $490, Activites $450, Student Loan Payment: $400, Car Insurance: $90, Gas: $110, Vacation Savings: $80, Contents Insurance: $25

c) Does George have surplus or deficit? How much?

net monthly pay − all expenses

$3814.20 - 1100 - 130 - 85 - 128 - 340 - 139 - 220 - 490 - 450 - 400 - 90 - 110 - 80 - 25 = +27.20$

surplus (+) of $\$27.20$

d) Do you think George should adjust his budget for the future, or do you feel like things are going well for him? Explain.

George has a surplus of $27.20, so he is not going into debt... things are going well for George!

Simple Interest

$I = P \cdot r \cdot t$

Where P is principal, r is annual interest rate, and t is time in years

Final Amount = Principal + Interest

$A = P + I$

0.046

5) Calculate the **simple interest** when $8500 is invested at 4.6% for 7 years.

$I = Prt$

$I = (8500)(0.046)(7)$

$I = \$2737$

$\$2737$

6) Calculate the number of years that $2500 is invested at 6% in order to make $750 in **simple interest**. $P = 2500 \quad r = 0.06 \quad t = ? \quad I = 750$

$I = Prt$

$750 = (2500)(0.06)t$

$750 = 150t$

$\frac{750}{150} \quad \frac{150}{150}$

$t = \frac{750}{150} = 5$

5 years

7) $5000 is invested at 3.5% for 4 years **simple interest**. After 4 years, all of that money is taken and invested at 5% for 6 years simple interest. How much in total will you have after this? $I = Prt$

1st $I = (5000)(0.035)(4) = 700$

$Total = 5000 + 700 = 5700$

2nd $I = (5700)(0.05)(6) = 1710$

$Total = 5700 + 1710 = 7410$

$\$7410$

Compound Interest Formula

$$A = P(1+r)^t$$

where: A = the final amount, P = principal, or initial amount, r = rate of yearly interest, (as a decimal)
t = time in years

8) $3000 is invested for 4 years at **compound interest** of 7%. How much total money will you have after 4 years? $P=3000$ $r=0.07$ $t=4$

$A = 3000(1+0.07)^4$

$A = 3000(1.07)^4$

$A = 3932.39$

$3932.39

9) Micah ends up with $21 522.79 after 7 years of **compound interest** at 3%. How much did he originally invest? $A=21522.79$ $P=?$ $r=0.03$ $t=7$

$A = P(1+r)^t$

$21522.79 = P(1+0.03)^7$

$21522.79 = P(1.03)^7$

$21522.79 = 1.229873865P$

$\frac{21522.79}{1.229873865} = \frac{1.229873865P}{1.229873865}$

$P = 17500$

$17500

10a) 10) Joanie wins $2 000 000 in a lottery. She decides to invest it at 5.5% **compound interest** for 5 years. How much will she have in total at that point? $P=2000000$ $r=0.055$ $t=5$

$A = 2000000(1+0.055)^5$

$A = 2000000(1.055)^5$

$A = 2613920.01$

$2,613,920.01

b) How much more interest will she make with **compound interest** compared to if she invested with the same terms at **simple interest**?

$I = Prt$

$I = (2000000)(0.055)(5)$

$I = 550000$

$A = P + I$

$= 2000000 + 550000$

$A = 2550000$

Difference: $2613920.01 - 2550000.00 = 63920.01$

$63920.01