

Mr T

**GRADE 11 ESSENTIAL
UNIT B – INTEREST AND CREDIT
EXERCISE
SIMPLE INTEREST**

Name: _____

Date: _____

Simple Interest Formula: $I = P * r * t$ where :

- **I** is the amount of interest earned [\$],
- **P** is the amount of **P**incipal invested (or borrowed) [\$],
- **r** is the **r**ate of interest (expressed as a decimal eg: $5\% = 0.05$ or $5/100$) based on an Annual Percentage Rate (**APR**); and
- **t** is **t**ime measured in years [years].

By law, all interest rates have to be shown as APR

- (note for example that **7** months is really just **7/12** years)

1. Jasmine's **CSB** pays her **5%** simple interest.

CSB = Canada Savings Bond

- a. How much interest will she earn on a **\$2,000** CSB after one year?
- b. What will be the total value of this **CSB** investment at the end of **one year**?

2. The account in which Erick deposits his money pays **8%** simple interest annually (APR). **How much interest** will he earn on a deposit of **\$3,000.00** left in the account for:

- a. 5 years;
- b. 2 years;
- c. 6 months.

3. Fred has earned **\$12.00** in interest on **\$200.00** that he had deposited in his account one year ago. What **rate of interest** (APR) was the account earning?

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4. Larry was thinking of purchasing a big screen TV for **\$4,000** one morning. The salesperson said that if Larry just paid for it fully with cash today that he could '*knock off*' **\$100** from the price of the TV. Larry knows that he will get his income tax rebate of about **\$5,000** in **30** days. Larry thinks he may just quick a quick loan for the **\$3900** to take advantage of the special deal.

a. How much will it cost Larry to borrow the **\$3900** he needs over a period of one month at **20%** interest APR?

b. Would Larry be better off to take the **\$3900** loan and buy today *or* wait for his Income Tax Rebate?

5. A person borrowed **\$9,000** from a business associate. Three months later the loan was fully repaid with a cheque for **\$9337.50**. What **rate of interest** (APR) was the person charged?

6. A student was thinking of buying an '*old beater*'. The student took out a personal loan from his uncle for **ten** months in order to purchase the vehicle. His uncle said he would only charge the student **12%** interest (APR). The student eventually paid **\$325** in interest at the end of the loan period. How much was the **principal amount of the loan**?

<p><i>'Per annum'</i> means per year</p>
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7. How many months will it take for a \$4,000 deposit to earn \$160 interest at 16% per annum?

Ans: 1a) \$100; \$2,100 2) \$1200; \$480; \$120 3) 6% 4) \$65.00 5) 15% 6) \$3250 7) 0.25 years (3 months)



COMPLETE THE TABLE

Fill in the blanks for the Simple Interest Calculations below.

Formulae: $A = P + I$; and $I = Prt$

	A [\$]	I [\$]	P [\$]	r [%]	t [years]
a.			\$1,000	10%	3
b.			\$1,000	20%	3
c.		\$250	\$1,000		1
d.		\$600	\$1,000		2
e.			\$2,000	25%	10
f.		\$840	\$4,200	10%	
g.		\$1500	\$7,500	20%	
h.		\$4500	\$10,000		10
i.	\$9,000		\$7,500	20%	
j.	\$12,000		\$9,000		5
k.	\$1,800		\$1,500		6