Name: _____ Date: _____ MBF 3C1

CHAPTER 8 REVIEW

8.1 – SIMPLE and COMPOUND INTEREST

SIMPLE INTEREST **COMPOUND INTEREST**

$I = Prt$ $A = P(1 + i)^n$, where $i = r \div N$ and $n = yN$
$A = P + I$

1. Tiffany invested **$6000** into two bank accounts

(a) Calculate the amount Tiffany will have after **7 years** if she deposits the amount into an account with **3% *simple interest***	(b) Calculate the amount Tiffany will have after **7 years** if she deposits the amount into an account with **3% interest, compounded annually**

2. (i) Mark deposits **$5000** into two bank accounts

(a) Calculate the amount Mark will have after **10 years** if he deposits the amount into an account with **5% *simple interest***	(b) Calculate the amount Mark will have after **10 years** if he deposits the amount into an account with **5% interest, compounded annually**
(c) Calculate the **difference** between the two final amounts. Which account will have more money after 10 years?	

CABILAN MATH ONLINE.COM IMAGINASIAN Promotions POWERED BY MONSTER

Name: _____ Date: _____ MBF 3C1

(i) Mike deposits **$480** into two bank accounts

(a) Calculate the amount Mike will have after **20 years** if he deposits the amount into an account with **4.2% *simple interest***	(b) Calculate the amount Mike will have after **20 years** if he deposits the amount into an account with **4.2% interest, compounded annually**
(c) Calculate the **difference** between the two final amounts. Which account will have more money after 20 years?	

3.Mikayla has two options to invest **$4000** for **2 years**. Complete the table to determine which option would give her the most money after 2 years

(a) Calculate the final amount of the money deposited in an account with **5% *simple interest***	(b) Calculate the final amount of the money deposited in an account with **4.3% interest, compounded yearly**
(c) Which account gave her the most money after 2 years?	

CABILAN MATH ONLINE.COM
IMAGINASIAN Promotions
POWERED BY MONSTER

Name: _____ Date: _____ MBF 3C1

8.2 – COMPOUND INTEREST

Formula: **$A = P(1 + i)^n$**, where **$i = r \div N$ and $n = yN$**

Interest earned (I) = A – P

TERMS

Annually = _____ time(s) per year

Semi-annually = _____ times per year

Quarterly = _____ times per year

Monthly = _____ times per year

* Weekly = _____ times per year

* Daily = _____ times per year

1. David deposits **$2000** into bank accounts with **4.8% interest** per year at various *compounding periods* for **5 years**. Complete the table below to determine the **final amount** and **interest earned**

(a) 4.8% interest, compounded *annually*	**(b) 4.8% interest, compounded *semi-annually***	**(c) 4.8% interest, compounded *quarterly***	**(d) 4.8% interest, compounded *monthly***
Interest earned	Interest earned	Interest earned	Interest earned

CABILAN MATH ONLINE.COM
IMAGINASIAN Promotions
POWERED BY MONSTER

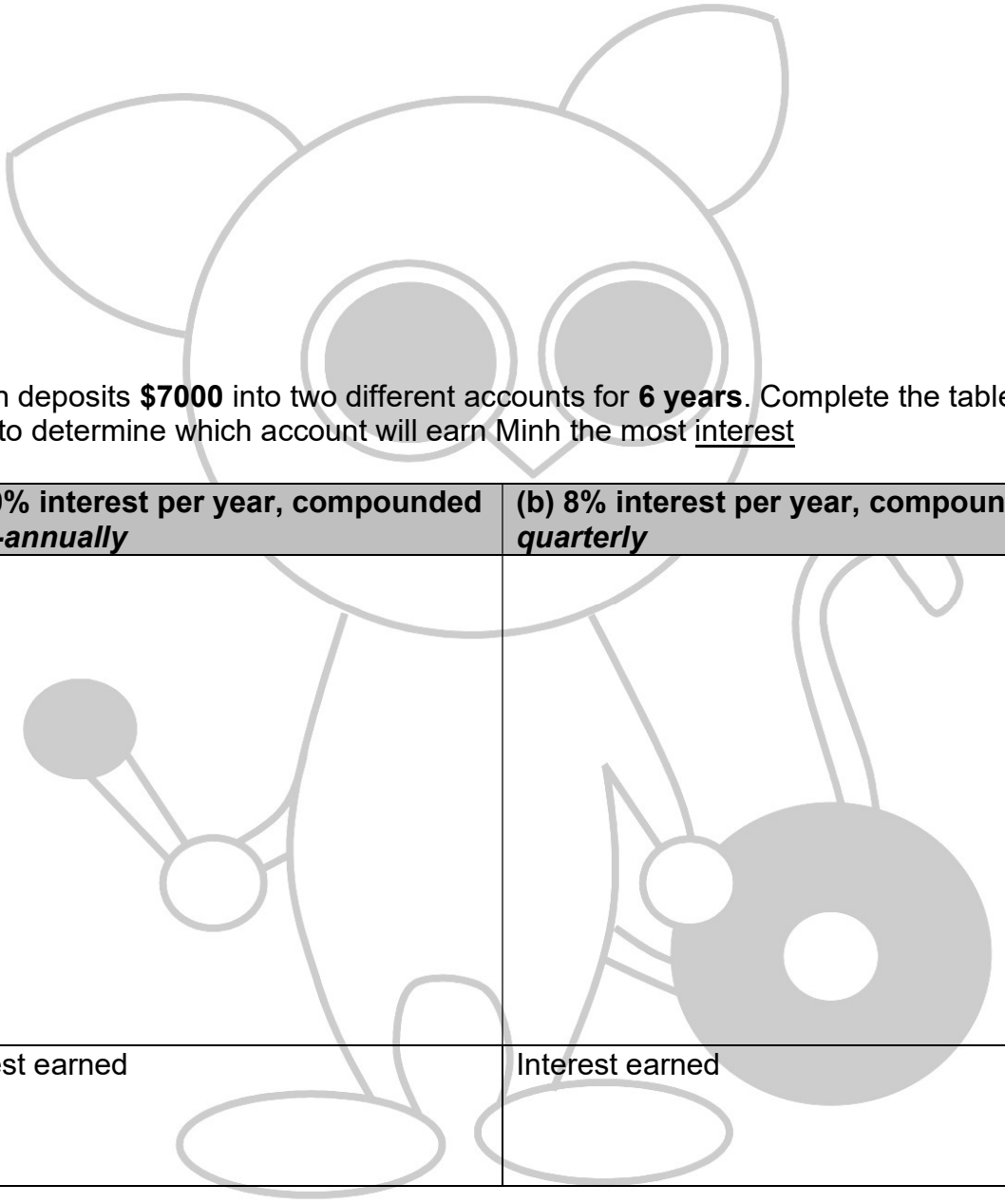
Name: _____ Date: _____ MBF 3C1

2. When Marta was **5 years old**, her parents invested **$12000** for her in a plan that earns **6% interest** per year, compounded semi-annually.

Calculate how much the investment will be worth when

(a) Marta is **12 years old**

(b) Marta is **18 years old**



3. Minh deposits **$7000** into two different accounts for **6 years**. Complete the table below to determine which account will earn Minh the most interest

(a) 10% interest per year, compounded *semi-annually*	**(b) 8% interest per year, compounded *quarterly***
Interest earned	Interest earned

(b) Which account earned Minh the most interest? _____

CABILAN MATH ONLINE.COM
IMAGINASIAN Promotions
POWERED BY MONSTER

Name: _____ Date: _____ MBF 3C1

8.3 – PRESENT VALUE

Formula: **$P = A(1 + i)^{-n}$**, where **$i = r \div N$ and $n = yN$**

1. Complete the table below to calculate the *present value* if someone wants to have **$8000** at the end of **5 years**, invested in accounts with **8.4% interest** per year at various compounding periods

(a) 8.4% interest, compounded *annually*	**(b) 8.4% interest, compounded *semi-annually***	**(c) 8.4% interest, compounded *quarterly***	**(d) 8.4% interest, compounded *monthly***

2. For **7 years**, Simon did not pay off his credit card bill. After being charged interest at **3% per year**, compounded monthly, Simon had to pay **$863.35**. How much was his original credit card bill?

3. How much should Shanice invest today in an investment that will pay **6% interest** per year, compounded semi-annually to have **$6000** in **4 years**?

CABILAN MATH ONLINE.COM
IMAGINASIAN Promotions
POWERED BY MONSTER

Name: _____ Date: _____ MBF 3C1

4. A bank is willing to discount a **$35000** *loan* by **4.4% per year**, compounded quarterly. The loan was originally due in **5 years**.

(a) How much needs to be paid today to pay off the loan?

(b) How much is the **discount**? (Calculate the difference between the loan amount and the amount paid today)

8.5 – EFFECTS OF CHANGING CONDITIONS ON INVESTMENTS and LOANS

1. Steve invests **$1250** various accounts with **10.4% interest** per year for **5 years**. Calculate the **future value (final amount)** for each compounding period

(a) 10.4% interest, compounded *annually*	**(b) 10.4% interest, compounded *semi-annually***	**(c) 10.4% interest, compounded *quarterly***

CABILAN MATH ONLINE.COM
IMAGINASIAN Promotions
POWERED BY MONSTER

Name: _____ Date: _____ MBF 3C1

(d) 10.4% interest, compounded *monthly*	(e) 10.4% interest, compounded *weekly*	(f) What do you notice happens to the final amount as the compounding periods increase?

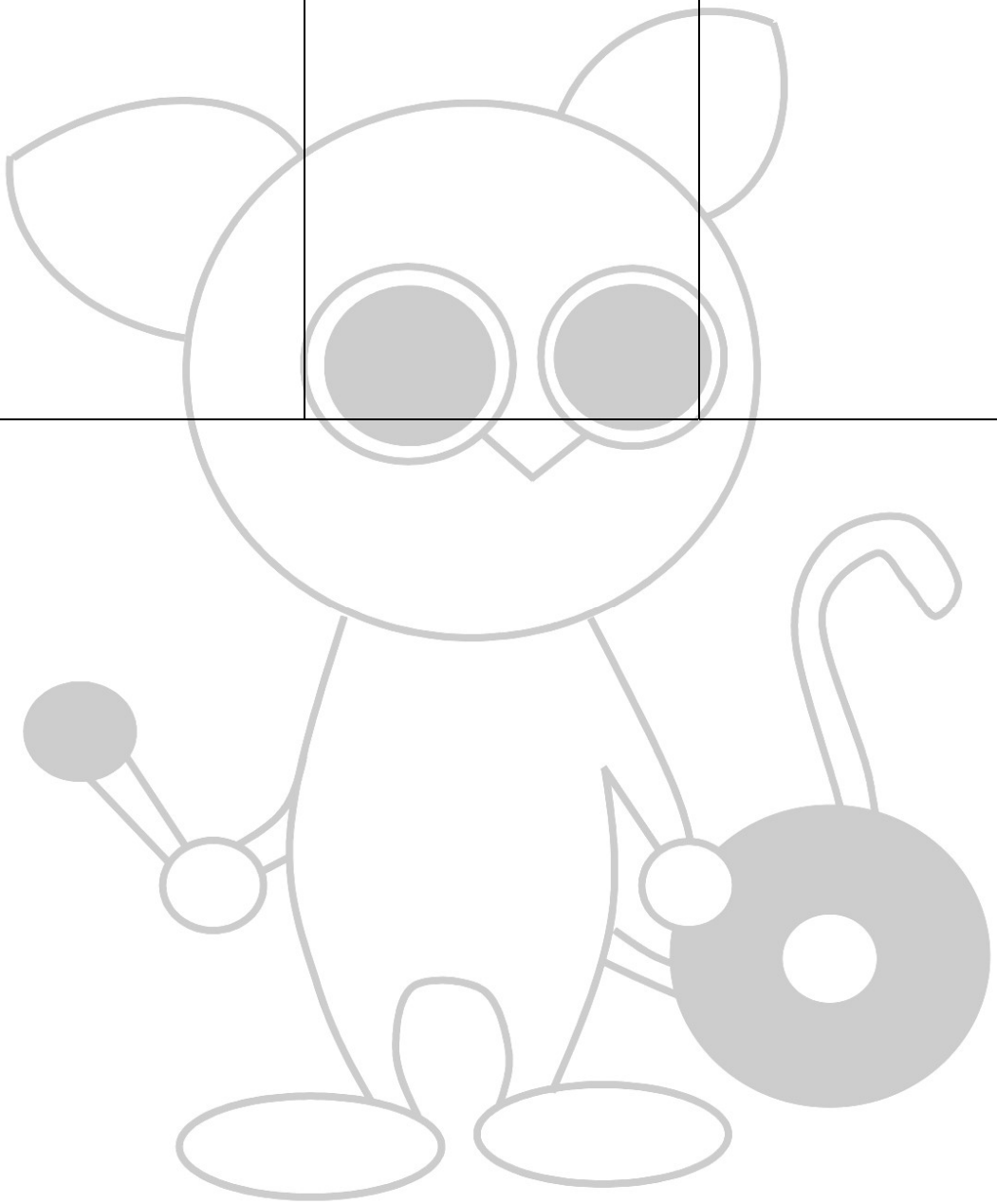
2. Joakim would like to have **$8000** in **4 years**. Determine how much he would have to invest today into an account with **5.2% interest** per year at various compounding periods

(a) 5.2% interest, compounded *annually*	(b) 5.2% interest, compounded *semi-annually*	(c) 5.2% interest, compounded *quarterly*

CABILAN MATH ONLINE.COM
IMAGINASIAN Promotions
POWERED BY MONSTER

Name: _____ Date: _____ MBF 3C1

(d) 5.2% interest, compounded *monthly*	(e) 5.2% interest, compounded *weekly*	(f) What do you notice happens to the investment amount as the compounding periods increase?



CABILAN
MATH ONLINE.COM
IMAGINASIAN Promotions
POWERED BY MONSTER

Name: _____ Date: _____ MBF 3C1

SOLUTIONS

8.1

1. (a) $7260 (b) $7379.24

2. (i) (a) $7500 (b) $8144.47 (c) $644.47

   (ii) (a) $883.20 (b) $1092.94 (c) $209.74

3. (a) $4400 (b) $4351.40 (c) Account w/ 5% simple interest

8.2

1. (a) $2528.35, Interest = $528.35 (b) $2535.30, Interest = $535.30

   (c) $2538.87, Interest = $538.87 (d) $2541.28, Interest = $541.28

2. (a) $18151.08 (b) $25879.10

3. (a) $12570.99, Interest = $5570.99 (b) $11259.06, Interest = $4259.06

   (c) Account with 10% interest, compounded semi-annually

8.3

1. (a) $5344.95 (b) $5301.67 (c) $5279.29 (d) $5264.07

2. $700

3. $4736.46

4. (a) $28121.92 (b) $6878.08

8.5

1. (a) $2050 (b) $2075.24 (c) $2088.61 (d) $2097.83

   (e) $2101.44 (f) As compounding period increases, final amount increases

2. (a) $6531.71 (b) $6514.95 (c) $6506.38 (d) $6500.58

   (e) $6498.33 (f) As compound period increases, present value decreases

CABILAN MATH ONLINE.COM
IMAGINASIAN Promotions
POWERED BY MONSTER