1. You have a starting salary of $68,000. Find the following:

a. Pre-tax monthly income

b. Hourly wage

A. $\frac{68000}{12} = 5666.67$ monthly gross

B. yearly = (hourly)(hours)(wks)

$$\frac{68000}{(40)(52)} = \frac{(x)(40)(52)}{(40)(52)}$$

$\$32.69 = x$ per hour

2. How much is your pre-tax monthly income if you earn 6.34% commission on your forecasted monthly sales of $355,000?

Commission = % of sales

Commission = 6.34% · 355000

Commission = $22507

3. You just accepted an Administrative Assistant position at IBM, Inc. with a starting salary of $37,500 per year. What is the monthly net income if:

a. Federal and State Taxes: 24.5%

b. SSN and Medicare Taxes: 10.4%

c. Retirement Contribution (monthly): 4.27%

d. Medical Expenses: $123

e. Short-Term Disability Insurance: $57

$$\frac{37500}{12} = 3125$$

$$3125(24.5\%) = 765.63$$

$$3125(10.4\%) = 325.00$$

$$3125(4.27\%) = 133.44$$

$$\begin{array}{r} 3125 \\ -\ 765.63 \\ -\ 325.00 \\ -\ 133.44 \\ \hline 1900.93 \\ -\ 123.00 \\ -\ 57.00 \\ \hline \boxed{1720.93} \end{array}$$

4. You work 5 days a week for 8 hours a day; hourly salary is $26.25. Your taxes are as follows: 15% for federal income tax, 2.9% for Medicare, 6.9% for SSN and 4% for Georgia state tax. What is your monthly post-tax income given you contribute 3.5% for your retirement plan?

pay = (salary)(HRS)(days)

pay = (26.25)(8)(5)

pay = 1050

1050 (15%) = 157.50

1050 (2.9%) = 30.42

1050 (6.9%) = 72.45

1050 (4%) = 42.00

1050 (3.5%) = 36.75

1050.00

− 157.50

− 30.42

− 72.45

− 42.00

− 36.75

$\boxed{710.88}$

5. Morgan deposits $5,000 in a CD account at Bank of America. The account pays 3% interest compounded semi-annually. What is the future value of the account in 13 years?

$A =$

$P = 5000$

$r = 3\%$

$n = 2$

$t = 13$

$$A = 5000\left(1 + \frac{3\%}{2}\right)^{2 \cdot 13}$$

$$A = 7363.55$$

6. If Eric inherits $15,000 on his 18th birthday, how much interest will he earn when he's 25 years old if the account earns 4.25% compounded bi-weekly?

every 2 weeks Biweekly

$$A = 15000\left(1 + \frac{4.25\%}{(52/2)}\right)^{25 \cdot 26}$$

$$A = 43366.30$$
$$-\ 15000.00$$
$$\boxed{28366.30}$$

365 days · 24 hrs
8760 hrs in a yr

7. Which account will earn more interest:

a. $7,500 deposited for 8 years at 2.75% compounded daily or

b. $8,300 deposited for 7 years at 3.15% compounded hourly?

A=
P= 7500
r= 2.75%
n= 365
t= 8

$$7500\left(1+\frac{2.75\%}{365}\right)^{8\cdot 365}$$

$$\boxed{9345.50}$$

A=
P= 8300
r= 3.15%
n= 8760
t= 7

$$8300\left(1+\frac{3.15\%}{8760}\right)^{8760\cdot 7}$$

$$\boxed{10347.61}$$

$$9345.50 < 10347.61$$

8. If you want to have $10,000 in 4 years and you have a savings account with 4.99% interest compounded quarterly, how much do you need to put in now?

$A = 10000$

$P = ?$

$r = 4.99$

$n = 4$

$t = 4$

$$10000 = P\boxed{\left(1 + \frac{4.99\%}{4}\right)^{4 \cdot 4}}$$

$$\frac{10000}{(1.219407705)} = \frac{P(1.219407705)}{(1.219407705)}$$

$$\boxed{\$8200.70 = P}$$

9. Kaleb, a recent SCHS grad, is going to UCLA in the fall and is seeking to have enough money when he graduates from college to buy his first car; he would like to have $5000 saved up. How much should he deposit now if he can secure a 6.57% interest rate that compounds monthly?

$A = 5000$

$P = ?$

$r = 6.57$

$n = 12$

$t = 4$

(4 yrs in College)

$$5000 = P\boxed{\left(1 + \frac{6.57\%}{12}\right)^{12 \cdot 4}}$$

$$\frac{5000}{(1.299634668)} = \frac{P(1.299634668)}{(1.299634668)}$$

$$\boxed{\$3847.24 = P}$$

10. Terry needs to make repairs to his flooded basement due to the recent storm. The cost of repairs is $13,575 and he has qualified for a loan at 6.85% compounded monthly; he will pay the loan back in monthly payments for 4 years. How much will he actually pay back?

$A = ?$

$P = 13575$

$r = 6.85\%$

$n = 12$

$t = 4$

$$A = 13575\left(1 + \frac{6.85\%}{12}\right)^{12 \cdot 4}$$

$$\boxed{A = \$17840.14}$$

11. Kaitlyn is prepared to buy a car valued at $12,250 but she must deposit a $3,000 down payment towards the value of the car. If she has a 5 year loan that has an interest rate of 3.39%; find the following:

a. What is the future value of the loan?

b. How much interest will the bank earn?

c. What is the monthly car payment?

Assume monthly compounding

A=

P= 12250 − 3000 = 9250

n= 1

r= 3.39%

t= 5

(A) $A = 9250\left(1+\frac{3.39\%}{12}\right)^{12\cdot 5}$

A = 10955.97

(B) 10955.97 − 9250 =

Interest = 1705.97

(C) payment = $\frac{10955.97}{60}$ = 182.60

13. Carrington wants to have buy a 2014 Toyota Camry priced at $18,999; he has qualified to two loans and must decide which is a better deal for him:

a. 1st loan: What is the monthly payment if the loan has 3.36% interest for 5 years?

b. 2nd Loan: What is the monthly payment if the loan has 3.08% interest for 4 years?

c. Which loan is better? Why?

$P = 18{,}999 \quad n = 12$

$r = 3.36\%$
$t = 5$

$r = 3.08\%$
$t = 4$

$A = P\boxed{\left(1 \pm \frac{r}{n}\right)^{nt}}$

Since P is same

$\left(1 + \frac{3.36\%}{12}\right)^{12 \cdot 5}$

1.182658935

$>$

$\left(1 + \frac{3.08}{12}\right)^{12 \cdot 4}$

1.130932104

Better deal

smaller # Smaller interest

Karen is buying a new Yukon Denali for $45,000 and has an option to purchase it and get a loan or lease it for 4 years. If she chooses not to buy it, she can lease the car for $675 per month with a one-time balloon payment of $3,550.

1. What is the value of the loan if she puts down 9% and gets a loan for 3.37%?
2. How much will she pay in interest?
3. What will her monthly payments be?
4. What is the total amount she will spend on the car if she decides to sell it for $30,000?
5. What is the total amount she will spend on the car if she leases it for the 4-year agreement?

LOAN

Down Payment

$9\%(45000)$

4050

$45000-4050=\text{Loan}$

$\$40950 = P$

$$40950\left(1+\frac{3.37\%}{12}\right)^{12\cdot 4}$$

(A) $A = \$46850.56$

(B) $46850.56-40950=$

5900.56

(C) $\dfrac{46850.56}{(4\cdot 12)} = \boxed{976.05}$

(D) $46850.56-30000=16850.56$

Lease

$675(4)(12)+3550$

(E) $\$35950$