## Section 1.2 - Ways of Earning: Salary and Commission

## Salary (Hours do not Matter)

- Salary is an annual income - an amount you get paid every year
- Salary can be paid out on a bi-weekly or semi-monthly basis.
- What's the difference?
- How many weeks in a year?
- How many months in a year?
- So if you get paid bi-weekly (every two weeks), how many paychecks do you get?

$$
52 \div 2=\mathbf{2 6}
$$

- If you get paid semi monthly (twice a month), how many paychecks do you get?

$$
12 \cdot 2=\mathbf{2 4}
$$

So bi-weekly you get 2 more paychecks! Same if you get paid hourly, every two weeks.

- Your annual salary is the same, but what changes is how much you get each paycheck

| Salary | Bi-Weekly | Semi-Monthly |
| :---: | :---: | :---: |
| $\$ 60000$ | $\$ 60000 \div 26$ | $\$ 60000 \div 24$ |
|  | $\$ 2307.70$ | $\$ 2500.00$ |
| $\$ 45000$ | $\$ 45000 \div 26$ | $\$ 45000 \div 24$ |
|  | $\$ 1730.77$ | $\$ 1875.00$ |

- Again, all totals are before deductions

You can figure out your Salary from your paycheck too

- Pay before deductions is called your GROSS pay

Salary is based on this one

- Pay after deductions is called your NET pay

Example: If you make $\$ 2300$ GROSS on a paycheck what is your salary if you get paid semimonthly? What would your paycheck be if you were paid bi-weekly with the same salary?

Solution:

$$
\begin{aligned}
& \$ 2300 \cdot 24=\$ 55200 \text { annually Annual Salary } \\
& 55200 \div 26=\$ 2123.08 \text { bi - weekly } \\
& \text { What Bi-Weekly GROSS pay would be }
\end{aligned}
$$

When calculating your Salary from your paycheck you need to know whether you are paid biweekly or semi-monthly, then you can determine your GROSS pay.

Bi-Weekly vs. Semi-Monthly

| Pro's | Con's |
| :---: | :---: |
| $\circ$ <br> $\circ$ Paycheck is always the same based on hours worked | $\circ$ <br> $\circ$Paycheck is always the same |

Why would these be the same?

- You could work more than 40 hours and only get paid for 40
- You could work less than 40 hours and get paid for 40
- You know exactly how much you will get paid each pay period
- There is no incentive to put in more time to increase wage


## Commission

- Commission is similar to tips, you get a percentage on the sale that is made
- It can be included on top of a salary or hourly wage
- Or your job is based purely on commission
- Having a salary or hourly wage and commission provides you with the guarantee of money coming in, but generally the commission percentage is quite low
- When you work strictly commission it is risky, you are not guaranteed money unless you make a sale, but generally the commission percentage is higher
- Calculating commission is all about percentage, remember:
- $2 \%=0.02$
- $5 \%=0.05$
- $12.5 \%=0.125$

Example: Genevieve is a car salesperson, she does not make a salary or hourly wage, but makes $2 \%$ commission on her sales. How much money does she make on a car that is $\$ 53000$ ?

## Solution:

$$
53000 \cdot 2 \% \rightarrow \$ 53000 \cdot 0.02=\$ 1060
$$

She makes \$1060 on that sale

Example: Grant sells Real Estate, he makes 3.5\% on the first \$100 000 and $1 \%$ on the rest of the sale price, how much money does he make if he sells a house for $\$ 850000$ ?

## Solution:

$$
\begin{array}{r}
\$ 100000 \cdot 3.5 \% \rightarrow \$ 100000 \cdot 0.035=\$ 3500 \\
\$ 750000 \cdot 1 \% \rightarrow \$ 750000 \cdot 0.01=\$ 7500
\end{array}
$$

Then add those together

$$
\$ 3500+\$ 7500=\$ 11000
$$

Grant makes $\$ \mathbf{1 1 0 0 0}$ on the sale!!!

- Now if you have an hourly wage and you make a commission, just calculate the two wages separately and add them together

Example: Shi works at Below the Belt, she makes $\$ 12.45 / \mathrm{hr}$ and makes $0.5 \%$ commission on her sales. Yesterday she worked for 6 hours and sold $\$ 4500$ worth of merchandise, how much did she make that day?

## Solution:

$$
\begin{gathered}
\frac{\$ 12.45}{h r} \cdot 6 h r=\$ \mathbf{7 4 . 7 0} \\
\$ 4500 \cdot 0.5 \% \rightarrow \$ 4500 \cdot 0.005=\$ \mathbf{2 2 . 5 0}
\end{gathered}
$$

Then add them up

$$
\$ 74.70+\$ 22.50=\$ \mathbf{9 7 . 2 0}
$$

Shi makes $\$ 97.20$

## - Can you work it out backwards?

| If Stephanie makes $\$ 18500$ in commission <br> on a sale, and her commission rate is $2.5 \%$, <br> what was the sale price? | If the sale price is $\$ 540000$ and the <br> commission was $\$ 27000$ what is the <br> commission percentage? |
| :--- | :--- |
| If: $\quad$ Sale Price $(2.5 \%)=\$ 18500$ | If:$\$ 540000($ Commission $)=\$ 27000$ <br> Then: $\quad S P=\frac{\$ 18500}{2.5 \%} \rightarrow \frac{\$ 18500}{0.025}=\$ 740000$ |
| Then: $\quad$ Commission $=\frac{\$ 27000}{\$ 540000}$ |  |
| The original sale price was: $\$ 740000$ | Commission $=0.05=5 \%$ |

- Working backwards means we have to use our Algebra Skills once again!
- You'll again that our units cancel out perfectly.

Up next we will look at the different deductions that come off your GROSS pay.

## Section 1.2 - Practice Problems

1. If your annual salary is $\$ 125000$ and you get paid bi-weekly, what is your Gross Pay? What is it if you get paid semi-monthly?
2. If you get a Gross Pay Paycheck twice a month of $\$ 3200$, what is your annual salary?
3. Complete the following chart.

| Annual Salary | Bi-Weekly Pay | Semi-Monthly Pay |
| :---: | :---: | :---: |
|  | $\$ 2400$ |  |
| $\$ 23800$ |  | $\$ 2850$ |
| $\$ 83500$ |  |  |
|  |  |  |
|  |  | $\$ 4200$ |

4. Adam sells cars and makes $2.5 \%$ commission. Last week he sold two cars, one was $\$ 63000$ and the other was $\$ 28000$. How much did he make?
5. Jaewon sells clothes, he makes $3.5 \%$ on his first $\$ 300$ and makes $4 \%$ on anything more. He also makes $\$ 12.50 / \mathrm{hr}$. How much does he make in an 8 hour shift with sales of $\$ 1200$ ?
6. Come up with your own question involving salary or commission and then solve it. Make it as challenging as possible.
7. Harpinder works as a real estate agent, he makes $3 \%$ on the first $\$ 150000$ and $1.5 \%$ on the rest. He had a very successful month and sold three homes, they were $\$ 550000, \$ 890000$, and $\$ 1.2$ million respectively. How much did he make that month?
8. Complete the following table, show your work below.

| Selling Price | Commission Rate | Commission Amount |
| :---: | :---: | :---: |
|  | $4.75 \%$ | $\$ 29925$ |
| $\$ 6200$ |  | $\$ 387.50$ |
|  | $2.3 \%$ | $\$ 125.50$ |

## Section 1.2 - Answer Key

1. $B W: \$ 4807.69$

SM: \$5208.33
2. $\$ 76800$
3. Left to Right - Top to Bottom
i. $\quad \$ 62400$
ii. $\$ 2600$
iii. $\quad \$ 915.38$
iv. $\quad \$ 991.67$
v. $\$ 68400$
vi. $\$ 2630.77$
vii. $\$ 3211.54$
viii. $\quad \$ 3479.17$
ix. $\quad \$ 50908$
x. $\quad \$ 2121.17$
xi. $\quad \$ 100800$
xii. $\$ 3876.92$
4. $\$ 2275$
5. $\$ 146.50$
6. Answers will Vary
7. $\$ 46350$
8. Left to Right - Top to Bottom
i. $\quad \$ 630000$
ii. $6.25 \%$
iii. $\$ 5456.52$

