Lesson 1

Earning Money

Money is what we use to conduct commerce. Money, which we call currency or dollars and cents, is what we use to function in the matter of working, buying, and selling. Generally, the more valuable our work, the more money we receive for our work. My first paying job was shoveling snow off of driveways for a few dollars. The longer the driveway, the more I charged. I then moved on to grass cutting and received $3.00 at one yard and $4.00 at another. I even had a paper route, but that was a lot of walking and had to be done every day. Plus, I didn't like dogs, or rather they didn't like me. So that job only lasted a few weeks. None of those jobs required any special training, and as a result I received low compensation.

When I turned 16, I worked as a busboy, then a stock boy, and finally a carpenter's helper, all of which paid minimum wage. The minimum wage, set by the government, is the lowest amount workers over 16 can be paid per hour. That year, I got between $1.40 and $1.60 per hour for each of those jobs.

At the end of the summer of working as a carpenter's helper, I was asked to paint the back gutter of a two-story house. It required being on a ladder three stories up. First, I stripped the gutter, then primed it, and finally painted it. I worked for five hours and went inside to be paid. The man asked me what I thought it was worth, and after some quick thought, I took a deep breath and said $15.00, which was double what I had been getting paid. He quickly wrote out a check for $20.00. When I told my dad about it, he said it was hard to find painters willing to be on a ladder and that what I had done was specialized work. But that wasn't the end of the story. The next-door neighbors who had seen me painting the gutter asked me to do the high trim on their home. I worked eight hours and charged $32.00. Receiving $4.00 per hour, I felt rich! But more importantly, I was learning a lesson in economics about the relationship between money and the value of labor.

Example 1

If my wages were $1.50 per hour, how much would my paycheck be for working 28 hours as a busboy?

Solution 1

$28 \times \$1.50 = \$42.00$

Example 2

When I was painting the high places on a house, I was being paid $4.00 per hour. How much did I make during a three-day job when I worked 22.5 hours?

Solution 2

$22.5 \times \$4.00 = \$90.00$

Hourly Pay and Annual Wage

All of the jobs I had when I was in high school were remunerated by the hour. If I worked 10 hours, I was paid for 10 hours. When I worked full time during the summer, I received a weekly paycheck based on how many hours I was on the job. Usually this was 40 hours, but if it rained it may have been 32 hours.

If you work by the hour and want to figure your wages for a year and not just a week, I have found a quick way to estimate it. Take your hourly wage, double it, then add three zeros to the end. If you work for $4.00 per hour, doubling it makes $8.00 and adding three zeros makes $8,000.00. Here is why it works. Generally, an average work week is 40 hours. That is five days per week and eight hours a day. This method does assume you work 50 weeks in a year, which is less than the actual 52 weeks in a year, but this is close enough to get a good estimate. Thus, 40 hours per week times 50 weeks is 2,000 hours. So $4.00 per hour times 2,000 hours is $8,000.00. The 4 is doubled (×2), and multiplying by 1,000 is the same as adding three zeros.

Example 3

Rowan's wage was $7.50 per hour. If he worked all year, and did not receive a raise or a bonus, approximately how much could he expect to receive annually?

Solution 3

$7.50 doubled is 15 and adding three zeroes makes $15,000. Or another way to think of this is $2{,}000 \times \$7.50 = \$15{,}000.00$

Overtime and Holiday Pay

A normal work week is 40 hours. If you work more than that, it is called overtime, and your pay is computed differently. These numbers will vary, but generally it is 1.5, or one and a half times a normal hourly wage. If you receive $9.00 per hour and work overtime, you would get $13.50 ($9.00 + $4.50) per hour for the hours beyond 40. If Raleigh is paid $9.00 per hour and worked 46 hours last week, he gets 40 hr × $9.00/hr for the normal weekly wages. Since he works 6 hours more than 40, he will receive 6 hr × $13.50/hr for overtime pay. His total wage for the week is then $360.00 + $81.00 = $441.00.

If you work on a holiday you may receive "holiday pay," which is double your normal pay. If Raleigh worked 49 hours with 9 of those hours coming on Memorial Day, he would receive 40 hr × $9.00/hr + 9 hr × $18.00/hr, or $360.00 + $162.00 = $522.00.

Example 4

Savana is a diligent worker who decides to work 44.5 hours this week. Her normal pay is $8.50 per hour. How much did she make for the whole week's work?

Solution 4

40 hr × $8.50/hr is for the normal weekly wages. Since she worked 4.5 hours more than 40, she will receive 4.5 hr × $12.75 ($8.50 + $4.25)

per hour for overtime pay. Her total wage for the week is then $340.00 + $57.38 = $397.38.

Salary

Certain jobs are paid a regular salary. This is like hourly pay, except the number of paid hours is specified in advance by an employee contract. For example, if you have a contract for 40 hours per week at $20 per hour, then you will be paid $800 every week as if you worked exactly 40 hours every week, regardless of how many hours you actually worked. If you worked 39.5 hours one week, and 43 hours the next week, you would still be paid as if you had worked 40 hours on both weeks and would not receive overtime pay for the week you worked 43 hours. Salaried jobs are also called "exempt" jobs, because they are exempt from state and federal laws regarding minimum wage and overtime.

Example 5

Bill was a sales rep for MathUSee. Through the convention season (about 10 weeks), he worked an average of 50 hours per week. During the slow time between Thanksgiving and Christmas, he only worked 30 hours for those 4 weeks. How many hours did Bill work for the year, assuming 40 hours for all of the other weeks?

Solution 5

For 52 weeks, with 10 × 50 plus 4 times 30 plus 38 (52 weeks − 10 weeks − 4 weeks = 38 weeks) × 40 hours.
500 + 120 + 1,520 = 2,140 hours

Example 6

What was his average hourly salary if his annual salary was $42,000.00?

Solution 6

$42,000 ÷ 2,140 = $19.63. We would estimate it was around $21.00 per hour ($42,000 ÷ 2,000 = $21.00), but because of the longer convention weeks and two additional weeks in a year, it was a bit less.

Piecemeal

Another way to earn money is what is referred to as piecemeal, per piece, or by the job. When you assemble block sets for me, I pay you by the piece. The faster you work, the more you make. My grandfather used to say you work by the (read slowly) hour . . . after . . . hour ... after . . . hour, or (read quickly) the jobbity-job-job. If you were paid by the hour, you would not get nearly as many block sets assembled as you would if paid by the piece—am I correct? It is human nature.

All of my early work experiences—mowing lawns and shoveling snow—were paid by the job. Delivering papers was by the paper, or by the piece. There are many jobs today that still operate this way and pay piecemeal. Those who hang drywall are often paid by the number of sheets hung on a job. Some delivery companies reimburse their workers by how many packages they pick up and/or deliver.

When MathUSee was in its infancy, I used to pay families to assemble block sets for $1.25

per set. Families sat around a table and put these kits together in their own home. In 2018, as I am writing this, most of our assembly is done by adults affected with a disability. They are paid for how many sets they are able to assemble. Our manipulative blocks sets are now larger, and assemblers receive $2.30 per set.

Example 7

Ephrata Area Rehabilitation Services has a team of workers who will be assembling block sets this week. By the end of the week, the team of five workers had put together 480 sets. How much was the combined pay for the team?

Solution 7

$480 \times \$2.30 = \$1{,}104.00$.

Commissions

Salesmen are generally paid according by how much they sell. Their wages are computed as a percentage of their total sales and are called a commission. The more they sell, the more they earn. Real estate salesmen are often paid a flat 1.5% commission for their work in helping someone sell or purchase a house. If they help sell a house that costs $53,000.00, their commission is $53,000.00 times 1.5% (0.015), or $795.00. They may sell one house per day in a good week. The flip side is that they may sell only one house a month during a rough stretch. Making a bunch of sales one week and then selling very little for a few weeks is called "feast or famine."

Example 8

Alex sold a house to Jeff and Fritha for $235,900.00. What was his commission?

Solution 8

$235,900.00 times 1.5% (0.015), or $3,538.50

Door to Door

One year, I sold World Book encyclopedias and found they reimbursed me 20% for my commission on each set I sold. It was a larger ticket purchase, and customers would need to think a little bit before investing the first time they saw my presentation. I found that it took an average of five presentations to sell one set. I took a sample around to show the product, and if a sale was made, the company would send it directly to the customer. World Book is one of those companies that doesn't have middlemen. They produce the books, then sell them through their sales force. You can't buy a set of World Book Encyclopedias in a Barnes & Noble bookstore. One advantage of this approach is I didn't need to fill my garage full of sets of encyclopedias and have a lot of money invested in them.

Example 9

The first week I began selling encyclopedias, I did 4 presentations in three evenings before I sold one set on the third evening. While there are several different binding options, from leather to faux leather, they chose a set which cost $789.00. What was my commission?

Solution 9

20% of $789.00 is $157.80

Commission Plus a Base Salary

Salesmen who work on a pure commission basis work harder than most, since their livelihood depends on their sales. An encyclopedia salesman might receive a 20% sales commission. On a set that runs $1,200.00, this comes to a check for $240.00. If he sells one per night, then sales are good, but if he sells one per week, then he is hungry. Often, companies have a base salary for salesmen with a commission added on. This way, salesmen are not totally dependent on selling but still retain the incentive, since the more they sell, the more they make.

Example 10

Reedy's Real Estate firm pays each person in full-time sales $1,500.00 per month as their base salary. They also receive a 1.5% commission on any properties they sell. Laura began working there in April and did not sell any homes during the first month. She continued to work diligently, and in May she closed (sold a home) on three homes which sold for an average of $185,000 each. What was her combined income for April and May?

Solution 10

$185,000 \times 3$ homes $= \$555,000.00$ for her total sales.
$\$555,000 \times 0.015 = \$8,325.00$ for the commissions.
$\$8,325.00 + \$1,500$ (April) $+ \$1,500$ (May) $= \$11,325.00$