Unit 2

2.1 Wages and Salaries

David Guenther

Objective

Use math to calculate total gross earnings for a given period of time at a job.

Definitions

minimum wage: the amount of money that is the bare minimum to be paid per hour

gross pay: all the money earned

Semi-monthly: 2 times a month

biweekly: a fortnight (14 nights = 2 weeks)

Start

Intro

We've already used a bunch of math to do conversions with numbers in currency, but a lot of those same skills can be used when finding out how much money you earn in summer.

Summer Job

While at university I normally get some sort of summer job. This summer I was working first for my uncle Tony building houses, and then I worked a Bible camp for the rest of the summer.

My wage will working for my uncle was 16 dollars an hour, and lets say I worked a total of 200 hours. I want to know how much I earned.

Well, wages per hour is a nifty ratio that is comparing two different things, money to time. Remember how we compared distance to time for speed? We're doing exactly the same thing.

$$\frac{money}{time}$$

So if we want to find out how much money is made in a certain amount of time, we just have to plug and play with our formula

$$\frac{16 dollars}{1 hour} \times \frac{200 hours}{1}$$

Our answer will cancel out the time, and we will be left with

$$16 dollars \times 200 = 3200 dollars$$

Example 1

But lets say my uncle likes to work more then 44 hours a week, and because of provincial laws, he has to pay overtime. Overtime in Saskatchewan is 1.5

So lets say that I work 50 hours in a week (which is hardcore)

How much money do I make then?

We set up the situation exactly the same.

$$\frac{16 dollars}{1 hour} \times \frac{44 hours}{1}$$

Notice, however, that I put 44 hours instead of 50. This is because I am not receiving overtime for the first 44 hours, but only for the last 6 hours.

now we need to calculate how much overtime pay I'm getting. Since its 1.5 of my normal pay, I need to take my normal pay (16 dollars), and multiply it by 1.5. This is 24 dollars per hour

$$\frac{24 dollars}{1 hour} \times \frac{6 hours}{1}$$

So our final equation looks like this:

$$\frac{16 dollars}{1 hour} \times \frac{44 hours}{1} + \frac{24 dollars}{1 hour} \times \frac{6 hours}{1}$$

And that all equals: 848 dollars

Example 2

Lets move backwards now. You know how much I get paid, 3200 dollars.

- Q: So do I get a check at the end of the summer for that amount of money?

It makes more sense to have the money given in increments, or slowly.

So how much money do I make each paycheck if my uncle pays me bi-weekly (assuming I work for 2 months)

Lets go back to nifty formula:

We know that if its bi-weekly, we have 2 payments every month. This means 4 payments for 2 months.

$$\frac{3200 dollars}{2 months} \times \frac{2 months}{4 payments}$$

This means that every paycheck I get will be **800** gross earnings.

Assignment

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End activity

Minimum Wage in Canada