Business Mathematics
Class notes
Gross Earnings: Piecework and Commissions (section 6.2)

Marge gets paid 17¢ per hat she makes; how much did she earn today?
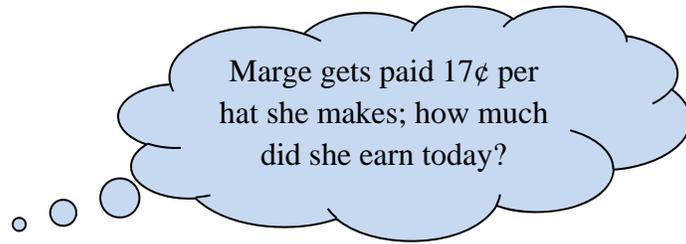
We will continue looking at how much to pay employees, but we consider piecework and commissions in this section. Recall the following definition.

Definition: Gross earnings: total amount earned without deductions such as taxes, union dues, etc.

In the last section, for hourly employees, we used the following formula.

Gross Earnings = Number of hours worked $\times$ Rate per hour

Here, we will be thinking of an employee who gets paid for each piece they produce, like a sewing or fruit picking job. Our formula for gross earnings will now be the following.

Gross Earnings = Number of items produced $\times$ Pay per item

Some piecework employees, we will see, get paid more per item if they produce more. For instance, you might get paid 10¢ per item if you produce up to 100 items. But then get paid 15¢ per item for every item you produce over 100. This is called **differential piecework** and will be discussed later.

To meet federal minimum wage laws, employers sometimes pay a **guaranteed hourly wage**. This kicks in if a piecework employee does *not* earn the equivalent of minimum wage for his time spent.

We will see **overtime** in this section as well. We will figure it as 1.5 times or 150% of the regular per item rate.

Lastly, we will see **commission** sales in this section. There are different ways to award commission and we will look at a few.

1

Piecework (Per Piece Wages) Earnings:

expl 1: Workers at a recycling center are paid $0.48 per container for sorting recyclables. Find the daily gross earnings for the following employee.

C. Biron who completed 292 containers

Try estimating the answer before you use the calculator.

expl 2: Mr. M. K. Leonard picks avocados. He picked 907 avocados in a single day. According to the pay chart below, find Mr. Leonard's daily gross earnings.

The trick is to recognize he does *not* get the highest rate for *all* of his avocados.

If he picks …	he gets paid …
1 – 500 avocados	$0.10 each
501 – 700 avocados	$0.14 each
Over 700 avocados	$0.18 each

Guaranteed Hourly Wage:

expl 3: Find the gross earnings for this employee by first finding the daily hourly earnings and then finding the daily piecework earnings. Each employee has an eight-hour workday and is paid $0.75 for each unit of production or the hourly rate, whichever is higher.

Name	Units Produced					Hourly Rate
	M	T	W	Th	F	
Jackson, S.	123	92	105	130	115	$10.20
Piecework wages (units × rate)						

Compare the hourly rate for 8 hours versus her piecework earnings at $0.75 for each unit.

Do this for each day individually.

Piecework Pay with Overtime:

Recall: Definition: Overtime earnings: the money earned at the overtime rate of pay

As before, we will pay overtime at 1.5 times or 150% of the regular rate. However, in this section, the rate we are taking 150% of will be a piecework rate of pay.

expl 4: Find the gross earnings for this employee. Overtime is paid at 1.5 times the normal rate per piece.

|	Units Produced		Rate per Unit
Employee	**Regular**	**Overtime (O.T.)**	
A. Jennings	470	70	$0.82
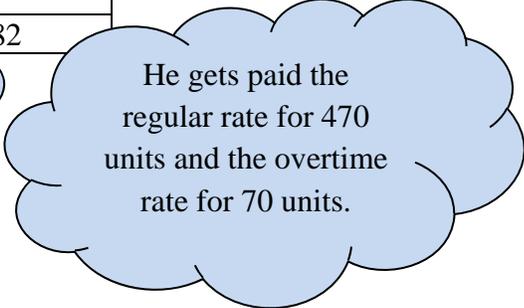
He gets paid the regular rate for 470 units and the overtime rate for 70 units.

Commission Sales:

Salespeople are often given a **commission**, or a percentage of each sale. Sometimes the commission does *not* kick in until the salesperson reaches a certain level of sales. Salespeople may or may *not* be given a base salary too.

expl 5: Find the gross earnings (in other words, the commission earned) for this salesperson.

Salesperson	Total Sales	Returns and Allowances	Rate of Commission
Kling, J.	$3806	$108	20%
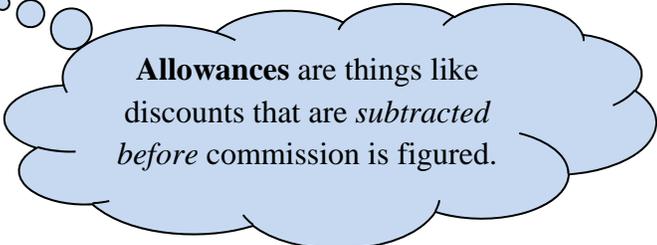
Allowances are things like discounts that are *subtracted before* commission is figured.

Variable Commission:

expl 6: Find the gross earnings for P. Hubbard who has a total sales of $11,225 using the following commission scale.

Again, notice the *whole* $11,225 is *not* multiplied by a single rate.

Variable Commission Rate
6% on first $7,500 in sales
8% on next $7,500 in sales
10% on any sales over $15,000

Salary plus Commission:

expl 7: Fire Fighting Equipment pays its salespeople as follows.
   $452 per week plus a commission of 0.9% on sales between $15,000 and $25,000, with 1.1% paid on sales in excess of $25,000.

Find the gross earnings for F. Wilson who had a total sales of $52,620. (No commission is paid on the first $15,000 of sales.)

Think of the $52,620 in three piles. One pile, the first $15,000, gets paid at 0%. The second pile ($10,000, do you know why?) gets paid at 0.9%. How much would be in the third pile, which would get paid at 1.1%?

Don't forget the base salary.

4