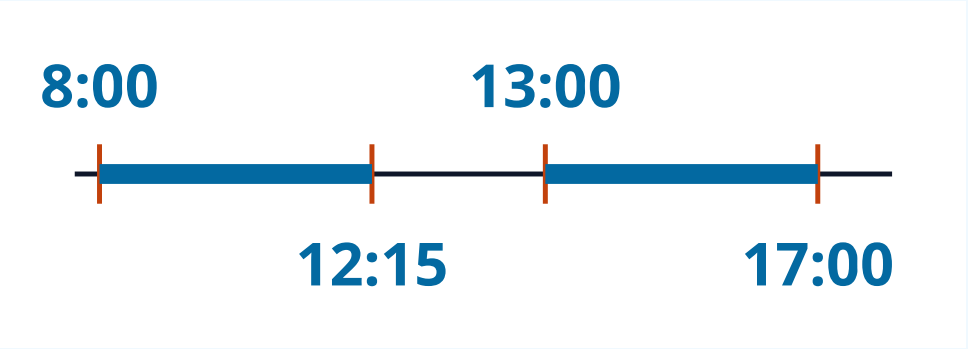
Mathematics 10-3

Unit N: Money and income

Methods of earning income

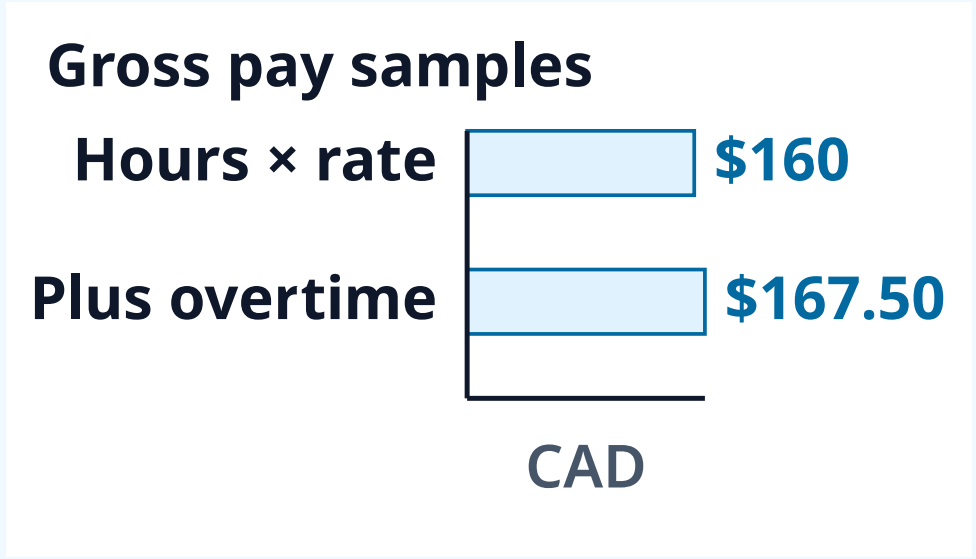
A time clock and a tip jar

- A welding apprentice clocks 8:00 to 12:15 and 13:00 to 17:00, and a server on another shift counts a wage plus tips.
- The earning method decides which numbers enter the pay: hours, sales, finished pieces, or one contract price.



Methods of earning income

- Methods of earning include hourly wage, wage plus tips, salary, commission, contract, piecework, bonus, and shift premium.
- A welder is paid an hourly wage, and a server is paid a wage plus tips.
- A salesperson earns commission, and office staff earn a salary.
- Roofing pays by contract, sewing pays by piecework, and a night shift adds a premium.
- Straight-time gross pay uses hours times the hourly rate.
- Overtime pay uses time and a half or double time on the extra hours.



Key terms

Hourly wage

Pay that counts each hour worked, including overtime hours at the overtime factor the job states.

Overtime

Hours beyond the stated threshold, paid at time and a half or at double time.

Commission

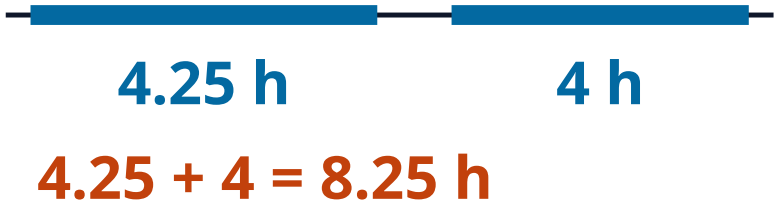
Pay that is a percent of sales, either as a single rate or as a base plus that percent.

Gross pay

The pay counted from the earning method before the deductions on a later stub. (hours × rate for straight time)

A time card in decimal hours

- From 8:00 to 12:15 is 4 hours 15 minutes, and 15 divided by 60 equals 0.25, so that block is 4.25 hours.
- From 13:00 to 17:00 is 4 hours, and 4.25 plus 4 equals 8.25 hours on the card.
- Fifteen minutes is 0.25 hour because 60 minutes equal 1 hour, while 0.15 hour is 9 minutes.



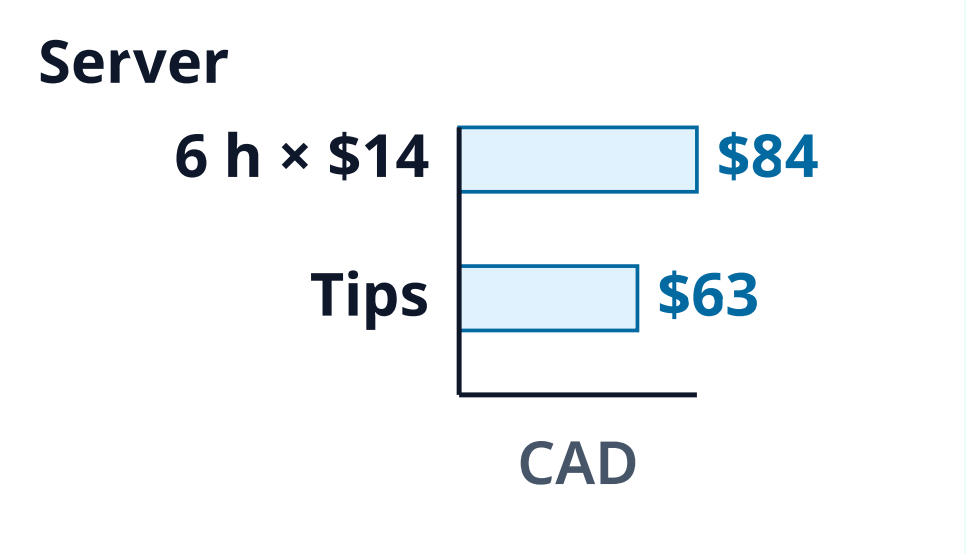
Time and a half after eight hours

- The rate is 20 dollars per hour, with overtime after 8 hours at time and a half.
- Regular pay is 8 times 20, which equals 160.
- Overtime pay starts with 0.25 times 20, which equals 5.
- Then 5 times 1.5 equals 7.50.
- Add 160 and 7.50 to get a gross pay of 167.50.



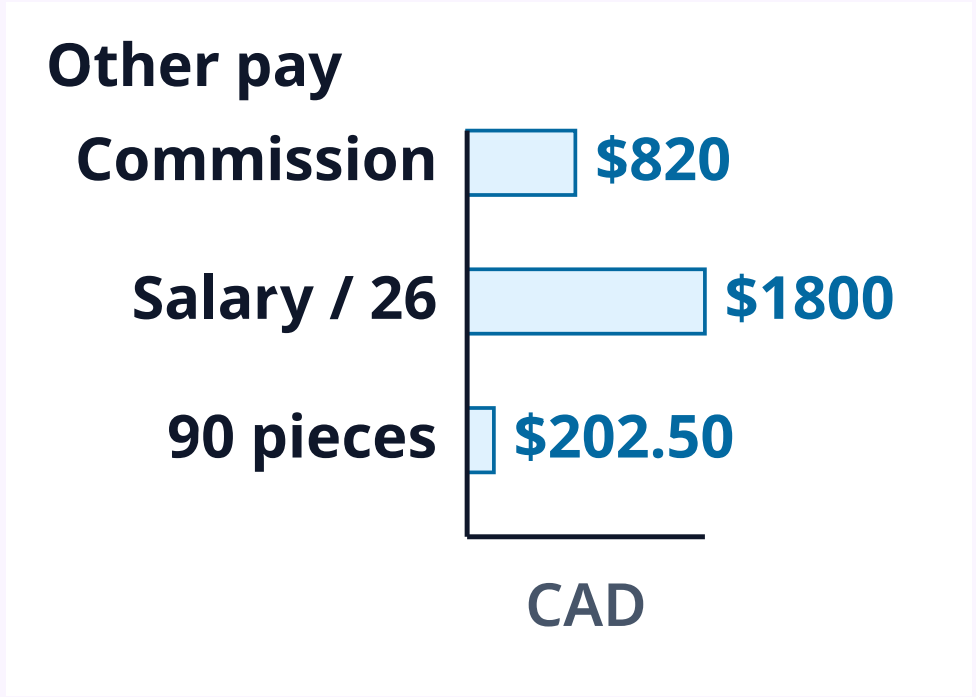
A server’s wage plus tips

- A server works 6 hours at 14 dollars and receives 63 dollars in tips.
- The wage is 6 times 14, which equals 84 dollars.
- Gross pay is 84 plus 63 in tips, which equals 147 dollars.



Salary and commission

- Double time for 5 hours at 18 dollars starts with 5 times 18, which equals 90.
- Then 90 times 2 equals 180 dollars of double-time pay.
- Four percent of 8000 dollars is 0.04 times 8000, which equals 320.
- A base of 500 dollars plus 320 equals 820.
- Six percent of 3500 dollars is 0.06 times 3500, which equals 210.
- Dividing 46800 dollars by 26 gives 1800, dollars because 26 times 1800 equals 46800.
- Ninety pieces at 2.25 dollars start with 90 times 2, which equals 180, and 90 times 0.25 equals 22.50.
- Adding 180 and 22.50 equals 202.50 dollars.
- A painting contract of 1800 dollars is the gross pay for that job.



Card and formula check

- Write the welder card as a decimal number of hours.
- Find the gross pay for 8.25 hours at 20 dollars with over-time after 8 hours at time and a half.

