

## Alternative Ways to Earn Money

# 2.2

### NEW SKILLS: WORKING WITH INCOME OPTIONS

Not all working people earn wages or a salary. There are other ways to earn income, including piecework, commission, salary plus commission, and contract work.

For more information, see page 64 of *MathWorks 10*.

#### Example 1

Greg works as a tree planter during the summer and he earns his income through piecework. He is paid \$2.50 for each seedling he plants. If he plants 45 seedlings in a day, how much will he earn?

#### SOLUTION

Multiply \$2.50 by 45.

$$\$2.50 \times 45 = \text{-----}$$

He will earn \$\_\_\_\_\_ that day.

#### BUILD YOUR SKILLS

1. Thomasina knits sweaters and sells them in her craft shop. She has been hired to knit sweaters for a team of 4 curlers and their spare. If she charges \$75.50 for a large sweater and \$69.75 for a medium sweater (because they require different amounts of wool), how much will she earn if she knits 3 large and 2 medium sweaters?

2. Patricia works in the garment industry. She is paid \$1.50 for each hem and \$2.25 for each waistband. How much does she earn by hemming 12 dresses and attaching 15 waistbands?
  
  
  
  
  
  
  
  
  
  
3. Jack cleans windows for extra income. He charges \$3.00 for a main floor window and \$5.00 for a second-storey window. How much will he earn if he cleans the windows on a house that has 7 main floor windows and 6 second-storey windows?

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**Example 2**

Mary works as a flower arranger. She is paid \$143.75 for making 25 identical flower arrangements for a wedding. How much was she paid per arrangement?

**SOLUTION**

Find the unit rate. The easiest way to calculate this is to divide \$143.75 by 25.

She is paid \_\_\_\_\_ per arrangement.



**Example 3**

Ming works in a store that sells classic Chinese furniture such as roundback armchairs and corner-leg stone stools. Ming works on commission at a rate of 6.5% of his gross sales. If he sold \$9865.00 worth of furniture last week, how much commission did he earn?

**SOLUTION**

Multiply his sales by his commission rate (expressed as a decimal).

$$\$9865.00 \times 0.065 =$$

His commission was \_\_\_\_\_.

**BUILD YOUR SKILLS**

7. Peter works in a sporting goods store and earns 12% commission on his sales. How much does he make on a bicycle that sells for \$785.95?
8. When selling a home, a real estate agent makes 5% commission on the first \$250 000.00 of the home's selling price and 2% on any amount over that. How much will Sue make if she sells a house worth \$375 900.00?

9. David earns a salary of \$375.00 per week plus 5% commission on his sales. If he sold \$6521.00 of goods, how much did he make?

#### Example 4

Olaf earned \$416.03 commission on his sales of \$9245.00. What was his rate of commission?

#### SOLUTION

You need to find what percent \$416.03 is of \$9245.00. Use proportional reasoning.

$$\begin{aligned}\frac{\$416.03}{\$9245.00} &= \frac{x}{100} \\ 100 \times \frac{\$416.03}{\$9245.00} &= \frac{x}{100} \times 100 \\ 100 \times \frac{\$416.03}{\$9245.00} &= x \\ 4.5 &\approx x\end{aligned}$$

His rate of commission was about \_\_\_\_\_%

#### ALTERNATIVE SOLUTION

Divide Olaf's commission by his sales to find the rate of his commission as a decimal. Then multiply this by 100 to convert to a percentage.

$$\$416.03 \div \$9245.00 \approx 0.045$$

$$0.045 \times 100 = 4.5$$

His rate of commission was 4.5%.

**BUILDYOUR SKILL**

10. If Freddi earns \$6.86 on a \$95.95 sale, what was his rate of commission?
11. What is the rate of commission if you make \$592.00 on sales of \$12 589.00?
12. Don operates a small craft store in which he sells other people's crafts. He takes a 45% commission from the sales of all crafts. If he earned \$958.00 commission last week, how much did he sell?

**Example 5**

Gurpreet is figuring out what he should charge for repairing the steps on a client's house. The cost of materials will be \$785.96, and he will have to hire 2 workers for 8 hours each at a rate of \$12.85/h. He wants to earn at least \$450.00 for himself. What should he charge the client in the contract?

**SOLUTION**

Calculate all of Gurpreet's costs.

Cost of materials: \$785.96

Cost of labour:

$$2 \text{ people} \times 8 \text{ hours} \times \frac{\$12.85}{1 \text{ hour}} =$$

Gurpreet's income: \_\_\_\_\_

Add all of these costs to find the total cost of completing the repairs.

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Gurpreet should charge \_\_\_\_\_.

Gurpreet would probably round this number. He might charge \$1450.00.

**BUILD YOUR SKILLS**

13. Marcel is bidding on a contract to lay concrete on a patio. He decides to calculate his actual costs and then add 20% profit for himself. He needs 3 cubic yards of concrete at \$100.00 per cubic yard delivered. He needs to pay 2 employees \$12.45/h each for 4 hours to do the job. What should he charge the client?
14. Tien has three employees working for her. Each employee is paid the minimum wage in BC, \$8.00/h, for an 8-hour day. They are also paid a commission of 12% on all sales they make. If the three employees made sales of \$785.96, \$452.87, and \$616.42, how much must Tien pay in total for the day?
15. Kate works at the front desk for a sheet metal company that recently completed 5 contracts. The contracts were worth \$5600.00, \$2800.00, \$7450.00, \$1900.00, and \$8900.00. Materials, salaries, and other expenses amounted to \$23 750.00. What was the percentage of the profits?



**PRACTISE YOUR NEW SKILL**

1. A farmer pays his son \$8.25 for each bucket of wild blueberries he picks. He then sells them at a roadside stand for \$15.00 per bucket.
  - a) How much does his son earn if he picks 28 buckets of blueberries?
  
  
  
  
  
  
  
  
  
  
  - b) How much does the farmer earn?
  
  
  
  
  
  
  
  
  
  
2. A car company pays its salespeople 2% commission on the amount of their sales after cost. Joey sells a car for \$23 000.00 that cost the company \$15 000.00. How much did Joey make in commission?
  
  
  
  
  
  
  
  
  
  
3. Larissa earns a base salary of \$500.00 per week plus 4% commission on any sales. How much will she have to sell to earn \$750.00 in a week?

