





# 7 Solving for an Unknown Value in a Proportion

EVALUATED



- 1** Determine the value of  $x$  in the following proportion by using cross-multiplication.

$$\frac{x}{9} = \frac{2}{3}$$

My Calculations									

- 2** Determine the value of  $x$  in the following proportion by using cross-multiplication.

$$\frac{x}{5} = \frac{12}{20}$$

My Calculations									

- 3** Determine the value of  $x$  in the following proportion by using cross-multiplication.

$$\frac{10}{x} = \frac{15}{24}$$

My Calculations									

- 4** Determine the value of  $x$  in the following proportion by using cross-multiplication.

$$\frac{15}{x} = \frac{75}{200}$$

My Calculations									

- 5** Determine the value of  $x$  in the following proportion by using cross-multiplication.

$$\frac{6}{14} = \frac{x}{35}$$

My Calculations									

- 6** Determine the value of  $x$  in the following proportion by using cross-multiplication.

$$\frac{10}{12} = \frac{x}{30}$$

My Calculations									



**6** You can buy printer ink cartridges in two different packages.

- 3 cartridges containing 7.5 mL per cartridge at \$15.46
- 2 cartridges containing 14 mL per cartridge at \$16.99

Which is a better buy?

**My Calculations**

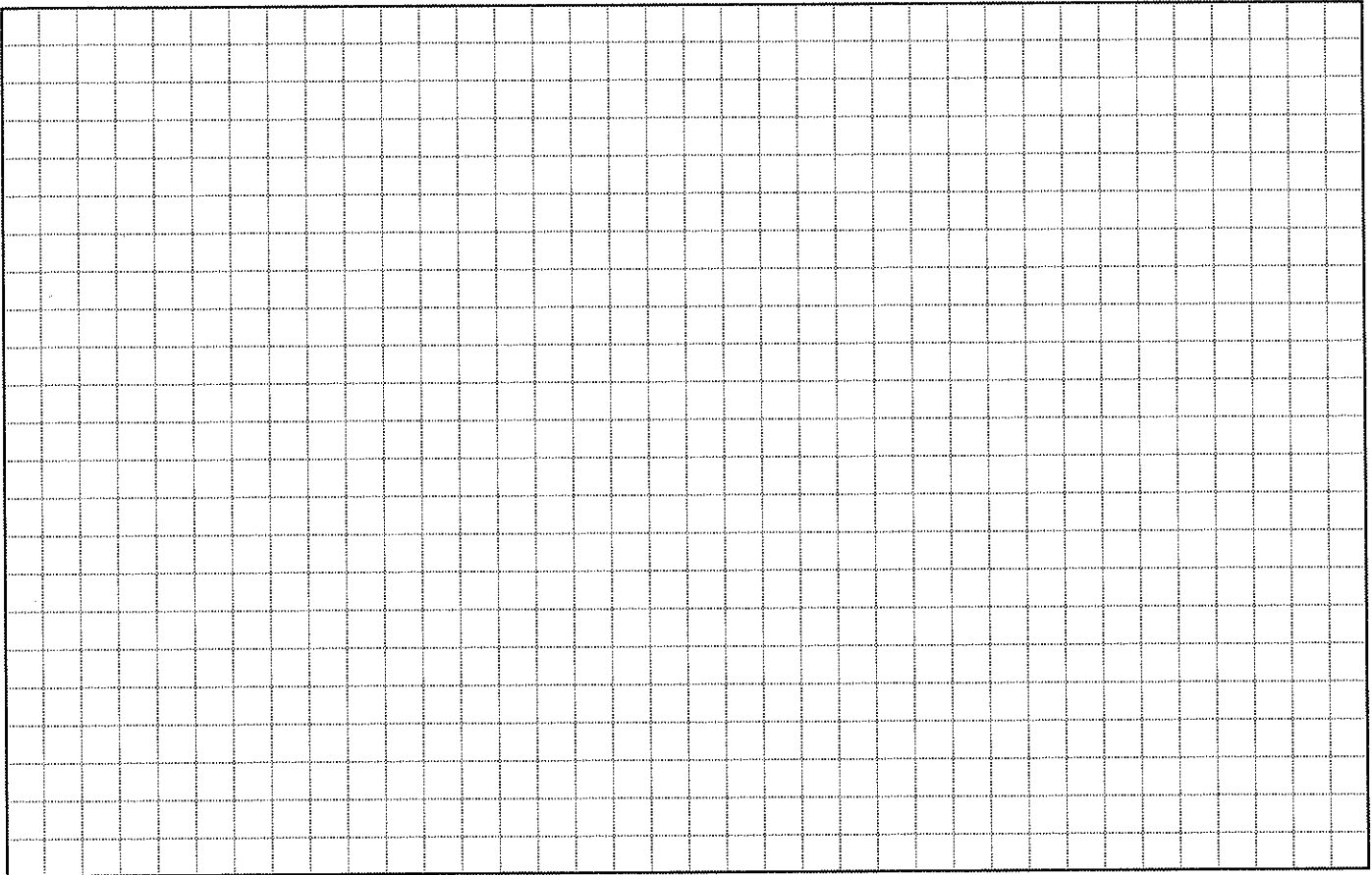
**7** I can buy a prescription from the local pharmacy at \$6.50 per 30 pills, or I can buy it from an online pharmacy at \$16.50 for 90 pills. I have to take one pill per day for 360 days.

Make a table and graph to show the long term cost differences over 360 days for the two purchase options.

## Skill Builder

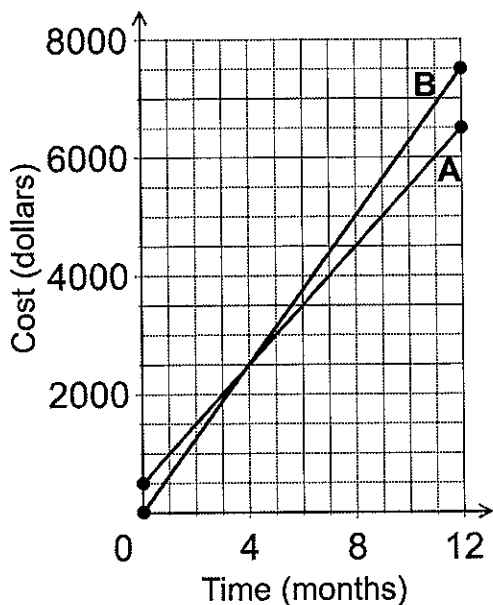
- 8** Two cable companies offer identical services in your area. One company has a \$100 set-up fee with a monthly fee of \$100. The other company has no set-up fee and charges \$120 per month.

Make a table and graph to show the long term cost differences over 1 year for the two different plans.



- 9** Compare the rental rates for identical 2-bedroom apartments in different complexes.

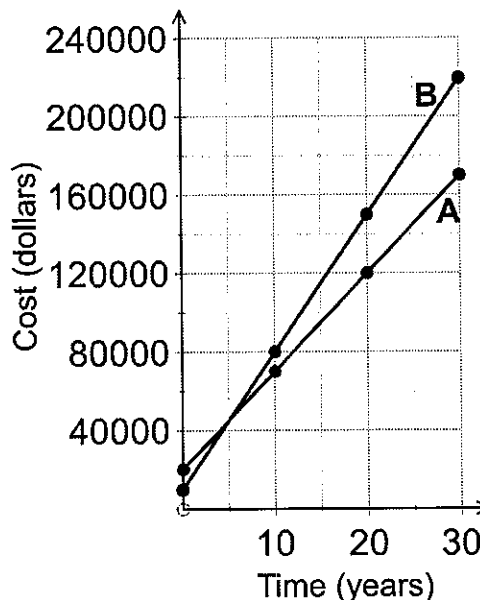
<b>Apartment A</b>	<b>Apartment B</b>
\$500 deposit	\$0 deposit
\$500/month	\$625/month



- What is the total cost of each plan after 12 months?  
\_\_\_\_\_
- What is the break even point in months?  
\_\_\_\_\_
- Which apartment is a better buy?  
\_\_\_\_\_

- 10** You can purchase a \$100,000 home through 2 different mortgage plans.

<b>Plan A</b>	<b>Plan B</b>
\$20,000 down	\$10,000 down
\$5,000/year	\$7,000/year
30 years	30 years



- What is the total cost of each plan after 30 years?  
\_\_\_\_\_
- What is the break even point in years?  
\_\_\_\_\_
- Which plan is a better buy?  
\_\_\_\_\_