



Write an algebraic equation to represent each situation and then solve the equation.

- Gary has already saved \$600 to purchase a car. If Gary wants to have \$3000 to buy a car in one year, how much must he save each month?

Equation

$3000 = 12m + 600$ where m is the amount of money saved per month

Solve the equation

$3000 = 12m + 600$	original equation
$\begin{array}{r} -600 \\ \hline 2400 = 12m \end{array}$	subtract 600 from both sides of the equation
$\begin{array}{r} 2400 \\ 12 \end{array} = \begin{array}{r} 12 \\ 12 \end{array} m$	divide by 12 on both sides of the equation
$200 = m$	solution

Gary must save \$200 per month.

- 4-H is an organization supported by land-grant universities for young people promoting learning, leadership, citizenship, and life skills through hands-on activities. Sharon is a member of a local 4-H club and has just purchased a 100-pound calf to raise for a 4-H project. She expects the calf to gain 60 pounds per month. How many months will it take for her calf to weigh 1000 pounds?

Equation

$100 + 60m = 1000$ where m is the number of months

Solve the equation

$100 + 60m = 1000$	original equation
$\begin{array}{r} -100 \\ \hline 60m = 900 \end{array}$	subtract 100 from both sides of the equation
$\begin{array}{r} 60m \\ 60 \end{array} = \begin{array}{r} 900 \\ 60 \end{array}$	divide by 60 on both sides of the equation
$m = 15$	solution

Sharon should expect her calf to weigh 1000 pounds in 15 months.



3. Kelly makes fleece hats that she sells at the local farmer's market for \$15 each. She would like to have 150 hats to sell at the next farmer's market scheduled in six weeks. She already has made 60 hats. How many must she make each week to reach her goal?

Equation

$6h + 60 = 150$ where h is the number of hats made per week

Solve the equation

$6h + 60 = 150$	original equation
$\begin{array}{r} 6h + 60 = 150 \\ -60 \quad -60 \\ \hline 6h \quad \quad = 90 \end{array}$	subtract 60 from both sides of the equation
$\begin{array}{r} 6h \quad \quad = 90 \\ \frac{6h}{6} = \frac{90}{6} \end{array}$	divide by 6 on both sides of the equation
$h = 15$	solution

Kelly should make 15 fleece hats per week for the next six weeks.

4. Ricardo attends the local university. He bought a student discount card for the bus. The card cost \$8 per month and allows him to purchase daily bus passes for \$1.75. At the end of one month, Paul calculates that he has spent a total of \$50 for costs to ride the bus. How many daily passes did Paul purchase for the month?

Equation

$1.75p + 8 = 50$ where p is the number of daily passes in a month

Solve the equation

$1.75p + 8 = 50$	original equation
$\begin{array}{r} 1.75p + 8 = 50 \\ -8 \quad -8 \\ \hline 1.75p \quad \quad = 42 \end{array}$	subtract 8 from both sides of the equation
$\begin{array}{r} 1.75p \quad \quad = 42 \\ \frac{1.75p}{1.75} = \frac{42}{1.75} \end{array}$	divide both sides of the equation by 1.75
$p = 24$	solution

Ricardo has purchased 24 daily passes.