

1. m: the number of months

**Amy will be able to afford the car in 14 months.**

$$\begin{array}{r}
 404 + 86m = 1600 \\
 -404 \qquad -404 \\
 \hline
 86m = 1196 \\
 \frac{86m}{86} = \frac{1196}{86} \\
 m = 13.9069...
 \end{array}$$

2. x: the number of tables

**Keith needs 10 tables.**

$$\begin{array}{r}
 5x = 3(16) \\
 5x = 48 \\
 \frac{5x}{5} = \frac{48}{5} \\
 x = 9.6
 \end{array}$$

3. m: number of miles traveled day 2  
 m + 75: number of miles traveled on day 1

**They traveled 425 miles on the second day and 500 miles on the first day.**

$$\begin{array}{r}
 m + m + 75 = 925 \\
 2m + 75 = 925 \\
 -75 \quad -75 \\
 \hline
 2m = 850 \\
 \frac{2m}{2} = \frac{850}{2} \\
 m = 425
 \end{array}$$

4. x: the amount of money Leo saves the first month  
 x + 25: the amount of money Leo saves in the second month

**Leo should save \$50 the first month and \$75 second month.**

$$\begin{array}{r}
 x + x + 25 = 125 \\
 2x + 25 = 125 \\
 -25 \quad -25 \\
 \hline
 2x = 100 \\
 \frac{2x}{2} = \frac{100}{2} \\
 x = 50
 \end{array}$$

5. x: the number of games lost  
 x + 8: the number of games won

**The Bulldogs lost 35 games.**

$$\begin{array}{r}
 x + x + 8 = 78 \\
 2x + 8 = 78 \\
 -8 \quad -8 \\
 \hline
 2x = 70 \\
 \frac{2x}{2} = \frac{70}{2} \\
 x = 35
 \end{array}$$

6.  $h$ : number of hours worked week 1  
 $h + 4$ : number of hours worked week 2

$$8.25(h) + 8.25(h + 4) = 594$$

$$8.25h + 8.25h + 33 = 594$$

**Candice worked 34 hours the first week  
and 38 hours the second week.**

$$16.5h + 33 = 594$$

$$\begin{array}{r} -33 \quad -33 \\ 16.5h + 33 = 594 \\ \hline 16.5h = 561 \end{array}$$

$$\frac{16.5h}{16.5} = \frac{561}{16.5}$$

$$h = 34$$

7.  $w$ : width of the rectangle  
 $w + 5$ : length of the rectangle

$$2(w) + 2(w + 5) = 66$$

$$2w + 2w + 10 = 66$$

**The width is 14 cm and the length  
is 19 cm.**

$$4w + 10 = 66$$

$$\begin{array}{r} -10 \quad -10 \\ 4w + 10 = 66 \\ \hline 4w = 56 \end{array}$$

$$\frac{4w}{4} = \frac{56}{4}$$

$$w = 14$$

8.  $x$ : Joe's age  
 $3x$ : Alan's age

$$x + 3x = 32$$

$$\frac{4x}{4} = \frac{32}{4}$$

$$x = 8$$

**Joe is 8 years old and  
Alan is 24 years old.**

9.  $x$ : the length of the shortest side  
 $x + 7$ : the length of the 2<sup>nd</sup> side  
 $2x$ : the length of the third side

$$x + x + 7 + 2x = 59$$

$$4x + 7 = 59$$

$$\begin{array}{r} -7 \quad -7 \\ 4x + 7 = 59 \\ \hline 4x = 52 \end{array}$$

$$\frac{4x}{4} = \frac{52}{4}$$

$$x = 13$$

**The shortest side is 13 cm  
The 2<sup>nd</sup> side is 20 cm  
The third side is 26 cm**

10. 7<sup>th</sup> to 8<sup>th</sup>

8 to 3

$3x$ : number of 8<sup>th</sup> graders

$8x$ : number of 7<sup>th</sup> graders

$$8x = 3x + 15$$

$$\begin{array}{r} -3x \quad -3x \\ 8x = 3x + 15 \\ \hline 5x = 15 \end{array}$$

$$\frac{5x}{5} = \frac{15}{5}$$

$$x = 3$$

**There are 9 8<sup>th</sup> graders and  
24 7<sup>th</sup> graders.**