

Homework 14.2

1. Fred sells cars and earns a base salary of \$625 per week plus \$150 for each car he sells.

Write an equation to represent the total amount of money Fred earns in a week (m) if he sells (c) cars.

\$625 Base pay
\$150 each car

Answer $M = 150C + 625$ $M = 150C + 625$

If Fred made \$1075 last week, how many cars did he sell?

Answer 3 cars

$$\begin{array}{r} 1075 = 150C + 625 \\ -625 \\ \hline 450 = 150C \\ \underline{150} \\ 3 = C \end{array}$$

2. An amusement park charges \$85 for each adult ticket and \$50 for each child ticket. One group's total cost was \$320.

Write an equation to represent the number of adult tickets (a) and the number of child tickets (c) that the group bought considering they spent \$320.

Answer $320 = 85a + 50c$

$$\begin{array}{r} \text{Adult } \$85 \\ \text{Child } \$50 \\ \hline \text{Total } \$320 \end{array} \quad 320 = 85a + 50c$$

If there were 2 adults in the group, how many children were there in the group?

Answer 3 children

$$\begin{array}{r} a = 2 \\ 320 = 85(2) + 50C \\ 320 = 170 + 50C \\ \underline{-170} \\ 150 = 50C \\ \underline{50} \\ 3 = C \end{array}$$

3. A taxi cab charges a flat fee of \$3.50 plus \$1.50 for each mile.

Write an equation to represent the cost (c) of a cab ride that travels (m) miles.

Answer $C = 1.50m + 3.50$

$$\begin{array}{r} \text{Flat fee} = 3.50 \\ \text{each mile} = 1.50 \end{array} \quad C = 1.50m + 3.50$$

If my last cab ride cost a total of \$12.50, how many miles did I travel?

Answer 6 miles

$$\begin{array}{r} 12.50 = 1.50m + 3.50 \\ -3.50 \\ \hline 9 = 1.50m \\ \underline{1.50} \\ 6 = m \end{array}$$

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4. Marie has \$40 to spend on ground beef and chicken for a party. The beef costs \$4 per pound and the chicken costs \$3 per pound.

Write an equation to represent the number of pounds of beef (b) and the number of pounds of chicken (c) that Marie can buy for \$40.

Answer $40 = 4b + 3c$

Beef	#4	
Chicken	#3	
		$40 = 4b + 3c$
Total	#40	

If Marie buys 4 pounds of beef, how many pounds of chicken can she buy?

Answer 8 lbs chicken

$$\begin{aligned}
 \text{Beef} &= 4 \text{ lbs} \\
 40 &= 4(4) + 3c \\
 40 &= 16 + 3c \\
 -16 \quad -16 & \\
 \hline
 24 &= 3c \\
 \frac{24}{3} &= \frac{3c}{3} \\
 8 &= c
 \end{aligned}$$

Homework Answers

1. $m = 150c + 625$; 3
2. $85a + 50c = 320$; 3
3. $c = 1.50m + 3.50$; 6
4. $4b + 3c = 40$; 8