LINEAR APPLICATION NOTES

APPLICATION MEANS ___*word problems*___

STEPS TO SOLVE LINEAR APPLICATIONS

1. ___Underline___ IMPORTANT INFORMATION

2. CHOOSE YOUR ___Variable___

3. WRITE THE ___equation___

4. SOLVE

EXAMPLES:

1. Suppose you are helping to prepare a large meal. You can peel 2 carrots per minute. You need 60 peeled carrots. How long will it take you to finish if you have already peeled 18 carrots?

x - minute

original
$$2x + 18 = 60$$
$$ -18 \qquad -18$$
$$\frac{2x}{2} = \frac{42}{2}$$

$x = 21$ minutes

2. Four times a number plus six times a number is equal to 8 times a number plus thirty-four. What is the number?

x - number

$$4x + 6x = 8x + 34$$

$x = 17$

$$10x = 8x + 34$$
$$-8x \qquad -8x$$
$$\frac{2x}{2} = \frac{34}{2}$$

$$I = P_r t$$

3. Jane invests a total of $4,000 in an account. The account pays 4% yearly interest. If she keeps the money in the account for 4 years, answer the following questions.

A. How much interest did Jane earn?

$I = ?$ $P = 4000$ $r = 4\% \approx .04$ $t = 4$

$I = 4000 \times .04 \times 4 = \boxed{\$ 640.00}$

B. How much money is in the account at the end of the 4 years?

$$\overset{orig.}{4000} + \overset{Interest}{640} = \boxed{\$ 4640.00}$$

Total

4. Cindy has $60 and her sister has $120. Cindy is saving $7 per week and her sister is saving $5 per week. How long will it be before Cindy and her sister have the same amount of money?

$$x = \overset{week}{time}$$

$$\underline{Cindy} \qquad\qquad \underline{Sister}$$

$$60 + 7x = 120 + 5x$$
$$-60 \qquad\qquad -60$$

$$7x = 60 + 5x$$
$$-5x \qquad\qquad -5x$$

$$\frac{2x}{2} = \frac{60}{2} \qquad\qquad \boxed{x = 30 \text{ weeks}}$$