Word Problems
Worksheet to Accompany Videotape #13

Strategies or Steps to Solve Word Problems

1. Read the problem carefully to determine what facts are given and precisely what is to be found.

2. Draw diagrams and make charts if possible to help interpret the given information and the nature of the solution.

3. Select a symbol (or symbols) to represent the quantity (or quantities) that are to be found.

4. Write an equation that expresses the conditions given in the problem.

5. Solve the equation.

6. Check the solution to see if it satisfies the equation and to see if it makes sense with regard to the problem.

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1. If the sum of two numbers is 94 and the larger number is five less than two times the smaller, what are the values of the two numbers?

2. The larger of two numbers is 3 more than twice the smaller. If their sum is 18, find the numbers.
3. A 972-meter length of fence will be used to enclose a rectangular field that is twice as long as it is wide. Determine the length and width of the field to be enclosed.

4. A rectangular field whose length is 10 meters longer than its width is to be enclosed with exactly 100 meters of fencing material. What are the dimensions of the field?
5. A grocer mixes candy worth $0.80 per pound with nuts worth $0.70 per pound to get a 20 pound mixture worth $0.77 per pound. How many pounds of candy and how many pounds of nuts did he use?

6. How many pounds of raisins worth $1.50 per pound must be mixed with 10 pounds of peanuts worth $1.20 per pound to produce a mixture worth $1.40 per pound?
7. An airplane travels from one airport to another and back in 5 hrs. Going one way, the pilot averages 600 mph. Going the other way he averages 400 mph. What is the distance between the two airports?

8. Two trains leave New York for Chicago. The first train travels at an average speed of 60 miles per hour. The second train, which departs an hour later, travels at an average speed of 80 miles per hour. How long will it take the second train to overtake the first train?
1. 33, 61

2. \(x = \text{smaller no.}\)
   \[2x + 3 = \text{larger no.}\]
   \[x + 2x + 3 = 18\]
   \[x = 5\]
   \[2x + 3 = 13\]

3. 162m width, 324m length

4. \(x = \text{width}\)
   \[x + 10 = \text{length}\]
   \[2x + 2(x+10) = 100\]
   \[x = 20\text{m}\]
   \[x + 10 = 30\text{m}\]

5. 14 lbs. candy, 6 lbs. nuts

6. \(x = \text{lbs. of raisins}\)
   \[x + 10 = \text{lbs. of mixture}\]
   \[1.50x + 1.20(10) = 1.40(x+10)\]
   \[x = 20\text{ lbs.}\]
   \[x + 10 = 30\text{ lbs.}\]

7. 2 hr. to go, 1200 miles distance

8. \(t = \text{hr. second train}\)
   \[t + 1 = \text{hr. first train}\]
   \[60(t+1) = 80t\]
   \[t = 3\text{ hr.}\]