Lesson 12: Solving Problems

Selecting a Method, Solving General Problems

Use **two variables** to solve these application problems by any of the three methods.

1. Read over the problem and think about what are the two unknowns.

2. Read over the problem again and identify the two "relationships" for equations. In developing the equations to solve an application, typically there will be a 'simple' equation using two variables and a more 'complex' equation using the two variables.

3. Create two equations with no more than two variables being used in either equation. The problem may include more information that you need. Be sure to only use two variables in the equations.

4. Solve the two equations by either substitution or elimination.

5. Determine if your answer makes sense. Test it. State the result in a 'labeled' sentence. EX: Kay walked 5 hours and Dan ran 3 hours.

Problems involving general quantities

A. The sum of two numbers is -16 and their difference is 8. Find the numbers.

Unknowns: x = 1st number Equations: $x + y = -16$
y = 2nd number $x - y = 8$

B. Jackie won 4 fewer blue ribbons than Terry. Together they won 28 ribbons. Find the number each won.

Unknowns: J = ribbons won by Jackie Equations: $J = T - 4$
T = ribbons won by Terry $J + T = 28$