MODELLING WORD PROBLEMS USING LINEAR SYSTEMS

To **MODEL** a word problem using a system of linear equations you must:

1) _____ your _____ using "_____" statements

2) _____ each of your _____

> **MODEL**
> means to set up in mathematical form

TYPES OF LINEAR SYSTEM PROBLEMS

In our class there are **TWO** types of linear system problems that can be modelled.

FIRST
is when you have a _____ SCENARIO under _____ conditions.

Example:

Jason weighs six kilograms less than twice Bill's weight.

If the sum of their weights is 102 kilograms, how much does each person weigh?

SECOND
is when you have _____ SCENARIOS under _____ conditions.

Example:

Karl's Towing charges $80 plus $0.22/km. Bev's Towing charges $70 plus $0.30/km.

Write a linear system to represent this problem. Which towing company would you use? Explain.

Examples:

> Model each of the word problems using a system of linear equations.
> You **DO NOT** need to solve the problems.

1. Jill makes two types of quilts.
    The first type costs $25 for fabric and $40 per hour for hand quilting.
    The second type costs $50 for fabric and $22 per hour for machine quilting.
    For what number of hours are the costs the same? **MODEL this problem.**

2. A band held a concert in its hometown. A total of 15 000 people attended.
    The tickets cost $8.00 per student and $12.50 per adult.
    The concert took in a total of $162 500.
    How many adults came to the concert? **MODEL this problem.**