SYSTEMS OF EQUATIONS

(Categorizing)

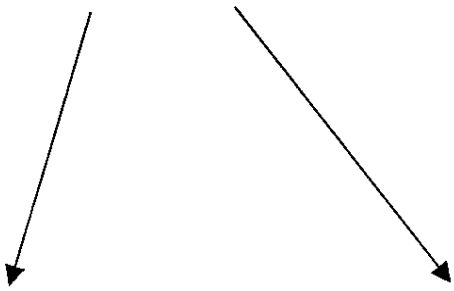
CONSISTENT

There is a solution

INCONSISTENT

There is no solution

(Parallel)



Dependent OR Independent

Infinite solutions

(Coinciding)

Exactly one solution

(Intersecting)

* **Consistent / Inconsistent tells you if there is a solution or not.**
* **Independent / Dependent tells you how many solutions.**

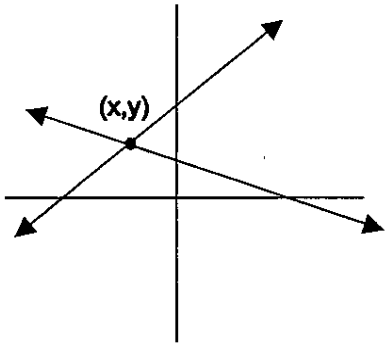
SYSTEMS OF TWO EQUATIONS – Solutions

Where are the equations – or lines – touching?

Three Scenarios:

Intersecting Lines

Touching in one place

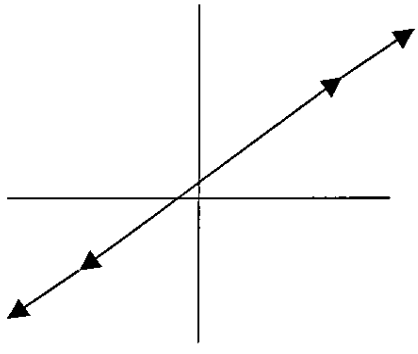


One solution

You will get an x-value and a y-value, such as: **x=5** and **y=-2**

Coinciding Lines

Touching everywhere



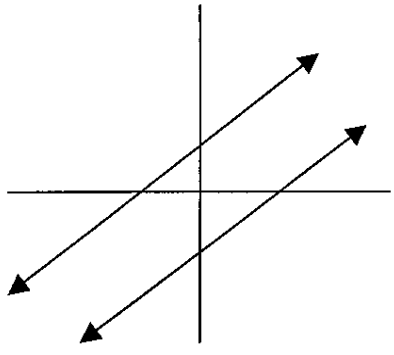
Infinite solutions

You will get an answer that looks something like: **0=0**, or **2=2**

(Note: These type of answers make sense)

Parallel Lines

Never touching



No solution

You will get an answer that makes no sense, such as: **0=4**

When solving systems of equations, the idea is to determine where the lines meet or touch. That is, what point or points do they have in common?