LINEAR INEQUALITIES

EQUATION
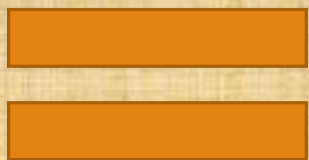
INEQUATION

$$=$$

$$>, <$$

$$\geq, \leq$$

RULES

EQUATION

- ADDITION OR SUBTARACTION BY A (+VE) OR A (-VE) QUANTITY DOES NOT MAKE ANY DIFFERENCE
- MULTIPLICATION OR DIVISION BY A (+VE) QUANTITY DOES NOT MAKE ANY DIFFERENCE
- MULTIPLICATION OR DIVISION BY A (-VE) QUANTITY DOES NOT MAKE ANY DIFFERENCE
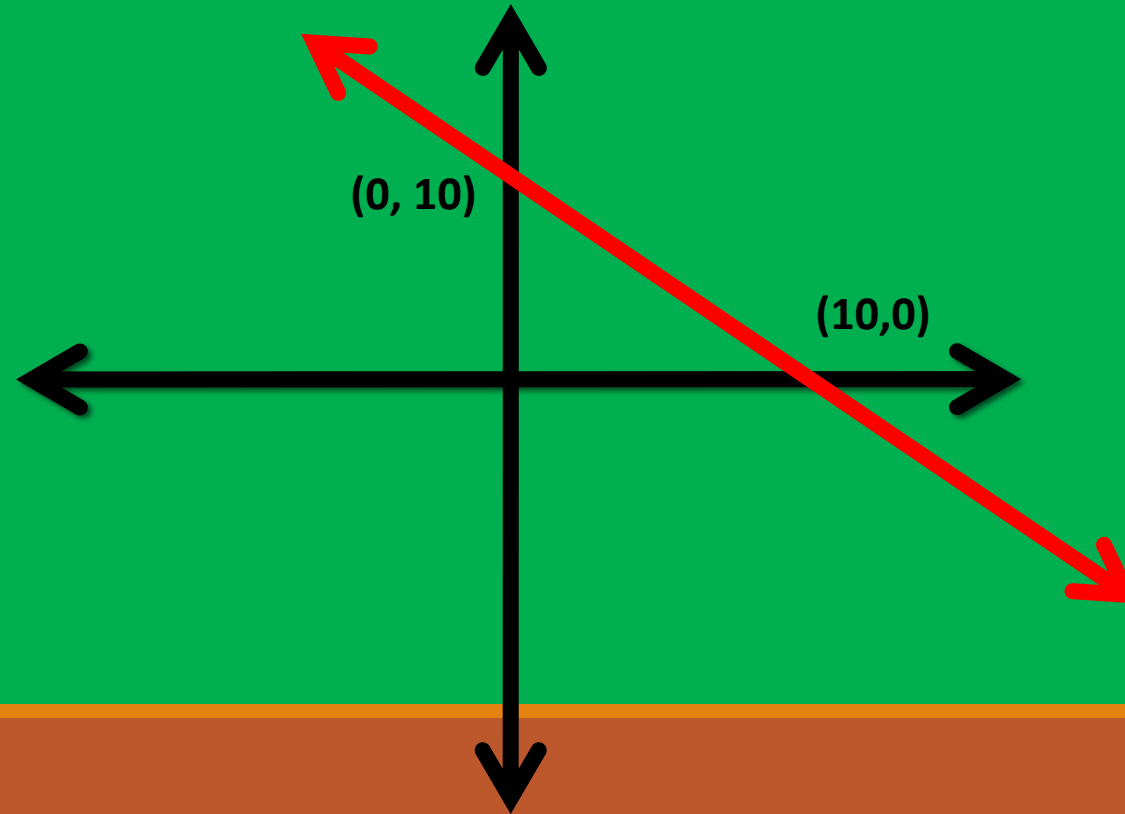
INEQUATION

- ADDITION OR SUBTARACTION BY A (+VE) OR A (-VE) QUANTITY DOES NOT MAKE ANY DIFFERENCE
- MULTIPLICATION OR DIVISION BY A (+VE) QUANTITY DOES NOT MAKE ANY DIFFERENCE
- MULTIPLICATION OR DIVISION BY A (-VE) QUANTITY INQUALITY CHANGES THE SIGNS IN THE FOLLOWING SCHEME:
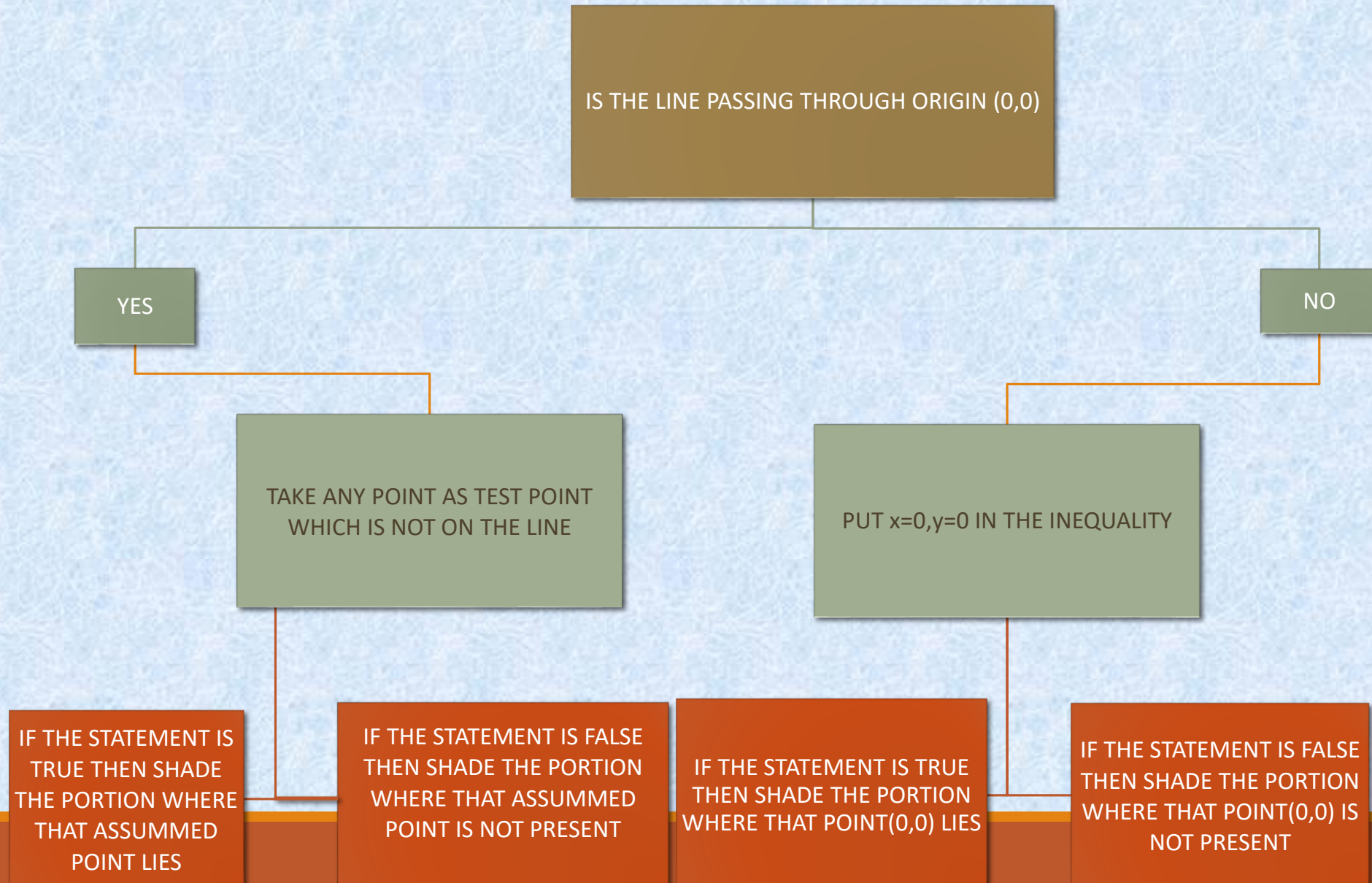
$$> \leftrightarrow <$$
$$\geq \leftrightarrow \leq$$

DRAWING A GRAPH FOR AN EQUATION:
$x + y = 10$

(0, 10)

(10,0)

STEPS FOR SOLVING INEQUATION:

IS THE LINE PASSING THROUGH ORIGIN (0,0)

YES

NO

TAKE ANY POINT AS TEST POINT WHICH IS NOT ON THE LINE

PUT x=0,y=0 IN THE INEQUALITY

IF THE STATEMENT IS TRUE THEN SHADE THE PORTION WHERE THAT ASSUMMED POINT LIES

IF THE STATEMENT IS FALSE THEN SHADE THE PORTION WHERE THAT ASSUMMED POINT IS NOT PRESENT

IF THE STATEMENT IS TRUE THEN SHADE THE PORTION WHERE THAT POINT(0,0) LIES

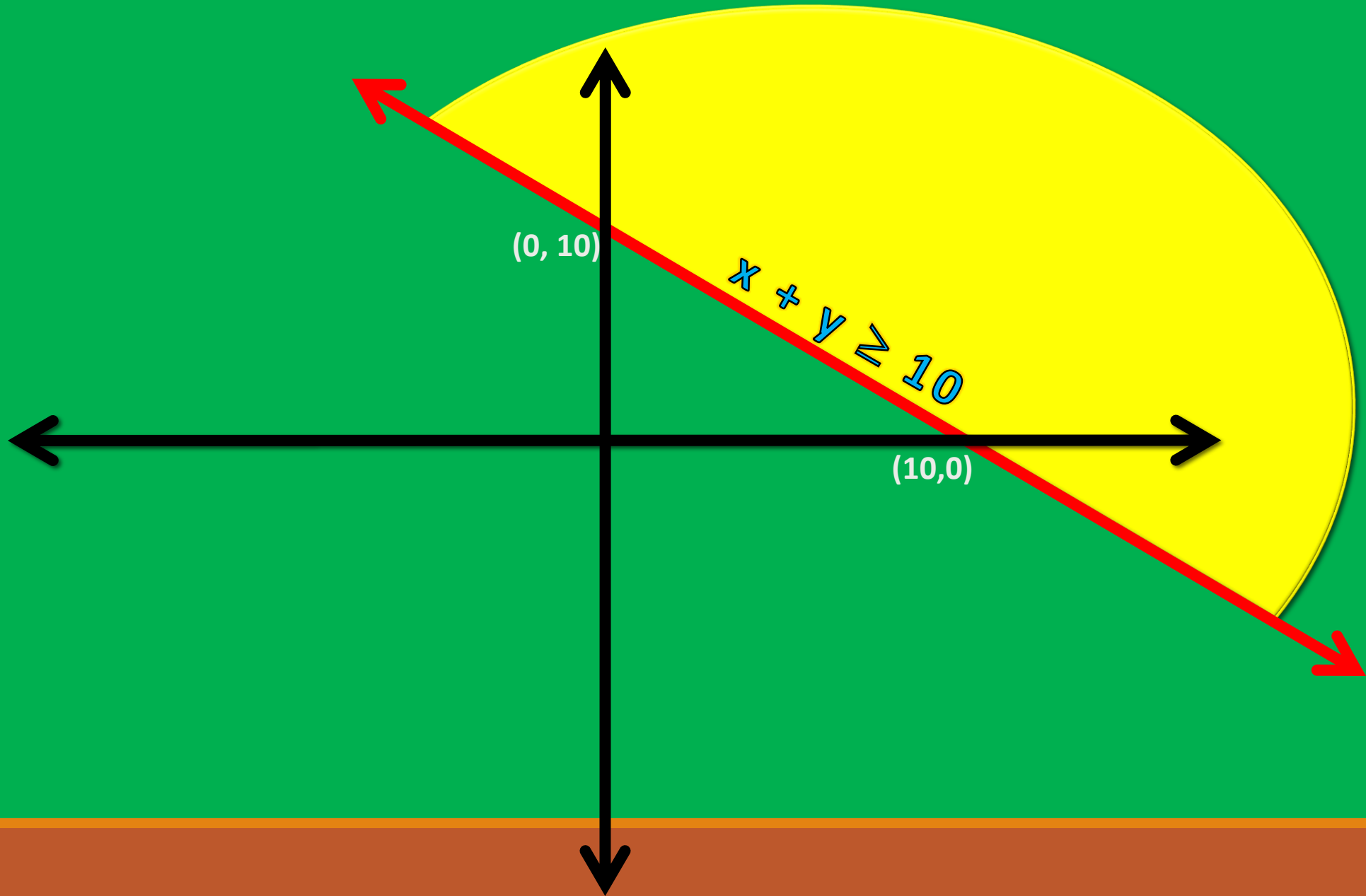**IF THE STATEMENT IS FALSE THEN SHADE THE PORTION WHERE THAT POINT(0,0) IS NOT PRESENT**

GOLDEN RULE:

➢ **DRAW A BOLD LINE IF THE INEQUATION HAS AN ($\geq$,$\leq$) SIGN**

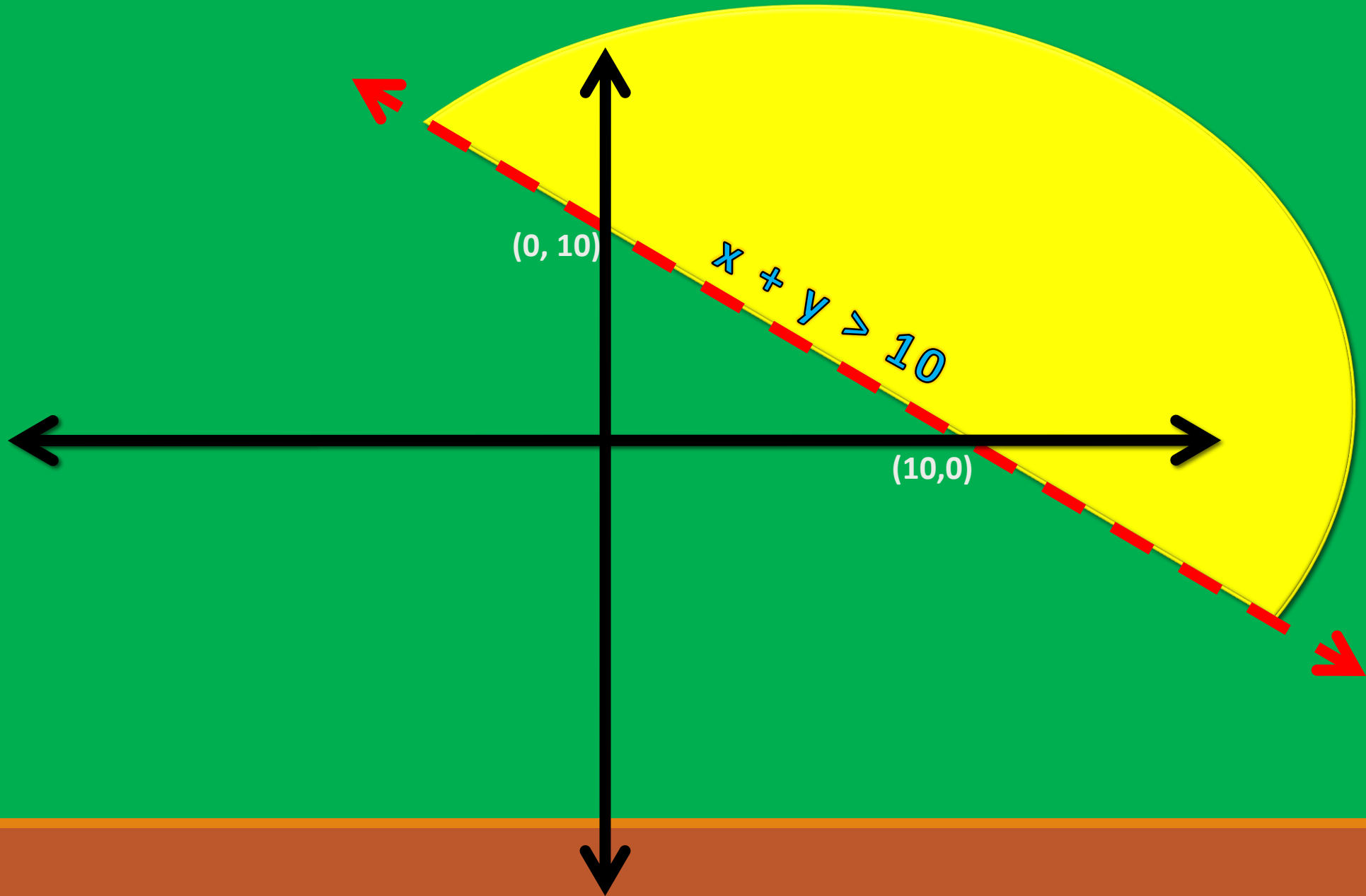➢ **DRAW A DOTTED LINE IF THE INEQUATION HAS AN ($>$,$<$) SIGN**

NOW,
DRAW A GRAPH FOR AN EQUATION:
x + y ≥ 10

FOR, x + y ≥ 10

(0, 10)

$x + y \geq 10$

(10,0)

GOLDEN RULE FOR SYSTEM OF INEQUATIONS:

➤ **SHADE THE AREA WHICH IS COMMON FOR ALL THE EQUATIONS.**

➤ **SHADE THE AREA FOR EVERY INEQUATION WITH DIFFERENT PATTERN/COLOUR.**

NOW,
DRAW A GRAPH FOR AN
EQUATION:
x + y > 5
x - y < 3