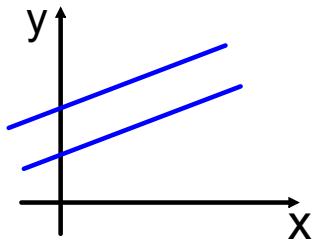


## Relative Position of Two Lines

There are 4 cases:

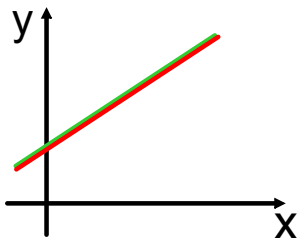
### 1) Distinct Parallel Lines



$$a_1 = a_2$$

$$b_1 \neq b_2$$

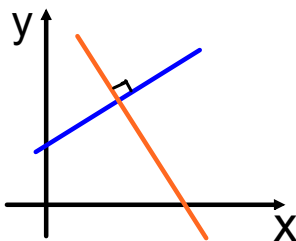
### 2) Coincident Parallel Lines



$$a_1 = a_2$$

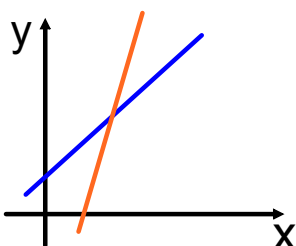
$$b_1 = b_2$$

### 3) Perpendicular Lines



- Slopes are negative reciprocals ( $a \cdot a' = -1$ )

### 4) Non Perpendicular Intersecting Lines



- $a_1 \neq a_2$

- Slopes are not negative reciprocals