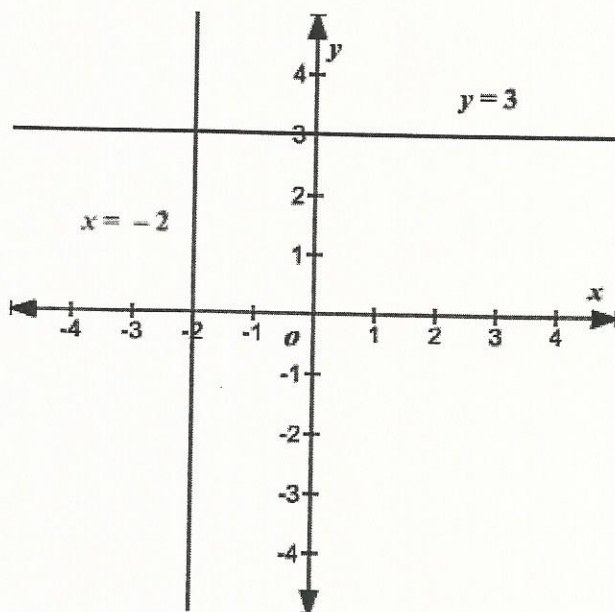# Vertical and Horizontal Lines

The equation of a vertical line is $x = a$ where a is the x value of every point on the line. For example, on the vertical line below all points have an x value of -2. Therefore, the equation of that line is $x = -2$.

The slope of a vertical line is undefined: m = undefined

The equation of a horizontal line is $y = b$ where b is the y value of every point on the line (including the y-intercept). For example, on the horizontal line above all points have a y value of 3. Therefore, the equation of that line is $y = 3$.

The slope of a horizontal line is equal to zero: m = 0

Only oblique lines have an equation which contains an "x" and a "y" :

In this case.... the equation is $y = mx + b$, where m = slope and b = y-intercept.