

The equation $x = 5$ is a **vertical line. The equation means that the line goes through the x-axis at 5; a vertical line would go through the x-axis, not a horizontal line.

The equation $y = 2$ is a **horizontal line. The equation means that the line goes through the y-axis at 2.

Notice in horizontal and vertical line equations there is only one letter. If you ever see an equation of a line with only one variable, you know right away that it is either vertical or horizontal line.

SLOPE

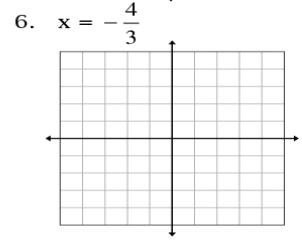
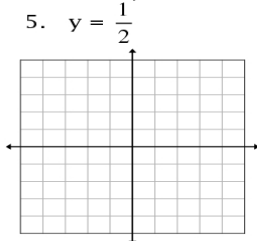
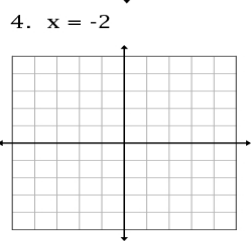
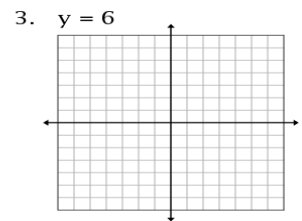
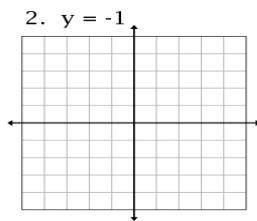
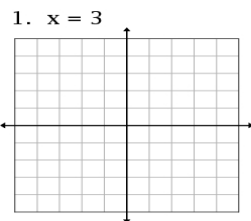
The slope of all **horizontal lines** is 0.

The reason for this is that horizontal lines would have 0 in the numerator, which is always 0. $\frac{0}{5} = 0$

The slope of all **vertical lines** is undefined or no slope.

The reason for this is that vertical lines have 0 in the denominator, which is always undefined. $\frac{5}{0} = \text{undefined}$

Graph the following.



7. What type of line is parallel to a horizontal line? _____

8. What type of line is perpendicular to a horizontal line? _____