

lines that coincide
they are the same line
same slopes, same
y-intercept

Lines & Slope

parallel lines
have same slope
but different y-intercepts

$$y = mx$$

line that goes through
(0,0) with slope m.

$$\text{slope}$$
$$m = \frac{y_2 - y_1}{x_2 - x_1}$$
$$m = \frac{\text{rise}}{\text{run}}$$

perpendicular
lines
have slopes that
are reciprocals
w/ opposite signs

lines are
straight
because
the slope
is a constant,
it doesn't
change.

Slope-intercept form
 $y = mx + b$
 $m = \text{slope}$
 $b = \text{y-intercept}$

Standard form
 $Ax + By = C$
where A, B, & C are
integers

Point-Slope Form
 $y - y_1 = m(x - x_1)$
 (x_1, y_1) is any
point on the
line.

+
slope

-
slope

vertical
line
undefined
slope

horizontal line
slope = 0

H horizontal line
0 slope = 0
 $y = \text{a number}$
(no x)

vertical line V
Undefined slope U
Some number = x
(no y)

