Warm up

1. What are the three things you need to determine the equation of a line? General form.

2. Determine the equation of a vertical line passing through the point (-3, 5).

3. Determine the equation of a line passing through the points (5, -2) and (2, 8). $m = \frac{y_2 - y_1}{x_2 - x_1}$

State answers in standard form.

1. What are the three things you need to determine the equation of a line?

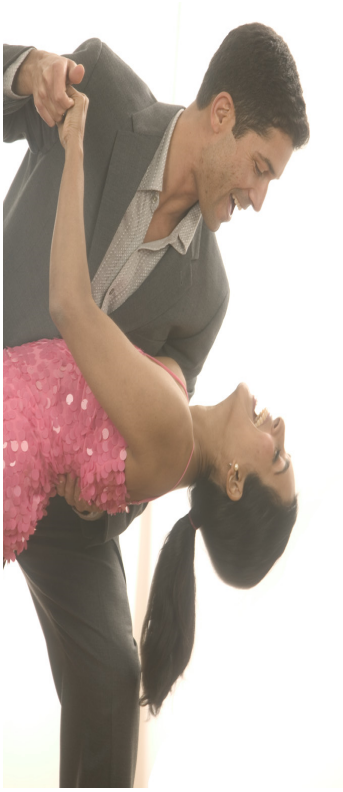
$y - y_1 = m(x - x_1)$

① SLOPE

② POINT

③ (X, Y)

$+ ax + by + c = 0$



2. Determine the equation of a vertical line passing through the point (-3, 5)

x_1 y_1

undefined

$\frac{1}{0}$

SLOPE $\frac{1}{0}$

POINT (-3, 5)

(X,Y) (x,y)

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\frac{1}{0} = \frac{y-5}{x+3}$$

$$x + 3 = 0$$

$y - y_1 = m(x - x_1)$

$y - 5 = \frac{1}{0}(x - x_1)$

$0 = x + 3$

SLOPE $\frac{-10}{3}$

POINT (5, -2) (2, 8)

(X,Y) (x,y)

$m = \frac{y_2 - y_1}{x_2 - x_1}$

$m = \frac{8+2}{2-5}$

$m = \frac{10}{-3}$

$m = \frac{-10}{3}$

$m = y - (-2)$

$\frac{-10}{3} = \frac{y+2}{x-5}$

$-10(x-5) = 3(y+2)$

$-10x + 50 = 3y + 6$

$-10x - 3y + 44 = 0$

$10x + 3y - 44 = 0$

$y - y_1 = m(x - x_1)$

$y - (-2) = -\frac{10}{3}(x-5)$

$3y + 6 = -10(x-5)$

$3y + 6 = -10x + 50$

$+10x + 3y + 6 - 50 = 0$

$10x + 3y - 44 = 0$

$m = \frac{y_2 - y_1}{x_2 - x_1}$

$\frac{-10}{3} = \frac{y-8}{x-2}$

$-10(x-2) = 3(y-8)$

$-10x + 20 = 3y - 24$

$-10x - 3y + 44 = 0$

$10x + 3y - 44 = 0$

$+ ax + by + c = 0$

⇒ Homework for Wed Dec 17/14

1-5 → of sheet handed out on Monday.

Attachments

SN00229A[1].wav