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

$y_2-y_1 = m(x_2-x_1)$ $\quad (x, y)$ on the ~~line~~ line

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

$$\boxed{y = m(x-x_1)+y_1}$$ point-slope

$y = m(x-0)+y_1$ $\quad (0, y_1) = y$-int

$\boxed{y = mx+b}$

$y = mx + y_1$ Slope-Intercept

$\cancel{-mx + y = y_1}$ Standard

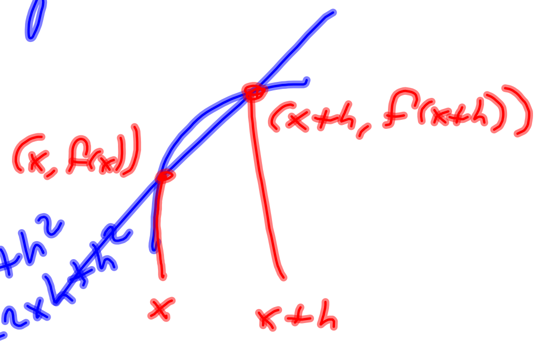
$$\boxed{Ax+By=C}$$

A, B, C integers

$f(x) = x^2 - 2x - 5$

Simplify the difference quotient

$$\frac{f(x+h) - f(x)}{h}$$



$(x+h)^2$

$= (x+h)(x+h)$

$= x^2 + xh + hx + h^2$

$= x^2 + 2xh + h^2$

$$\frac{(x+h)^2 - 2(x+h) - 5 - (x^2 - 2x - 5)}{h}$$

$$= \frac{x^2 + 2xh + h^2 - 2x - 2h - 5 - x^2 + 2x + 5}{h}$$

$$= \frac{2xh + h^2 - 2h}{h} = \frac{h(2x + h^1 - 2)}{h}$$

$$= 2x + h - 2$$

$\xrightarrow{h \to 0} 2x - 2$

is how steep

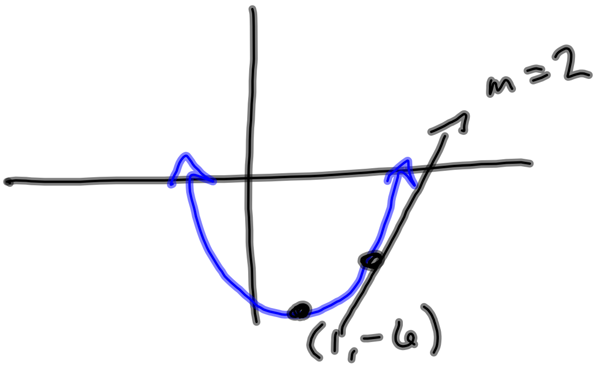
$$\frac{h^2}{h^1} = h^{2-1} = h^1$$

$x^2 - 2x - 5$ is.

$= x^2 - 2x + 1^2 - 1^2 - 5$

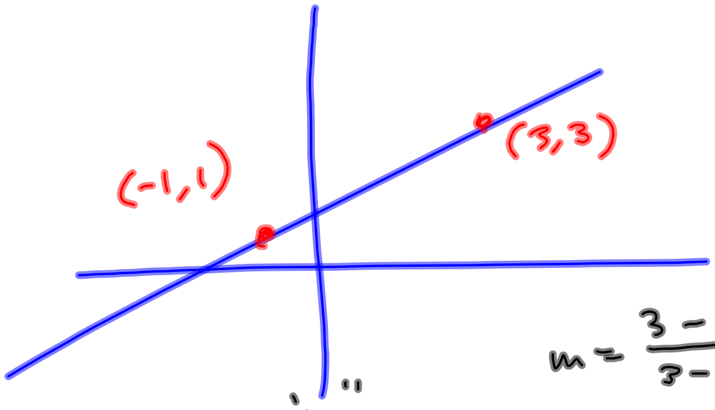
$= x^2 - 2x + 1 - 6$

$= (x-1)^2 - 6$



$2(2) - 2$

$= 2$



"an eq'n"

$$m = \frac{3-1}{3-(-1)} = \frac{2}{4} = \frac{1}{2}$$

pt-slope $y = \frac{1}{2}(x-3)+3$

$y = \frac{1}{2}x - \frac{3}{2} + \frac{6}{2}$

slope-int $y = \frac{1}{2}x + \frac{3}{2}$

$2y = x + 3$

stdd $-x+2y=3$

§4.1 #s 13*, 41-53, 55de

§4.2 #s 25-31

§4.3 #s 7, 9, 11, 13, 17, 20

§4.4 #s 11-19, 23

*Any method.

Emphasis in C4 is Substitution Method. We'll touch lightly on Addition/Elimination Method.

---

§5.1 #s 3-21, 33-39, 45-55, 59, 63

§5.2 #s 1, 5, 9, 13, 17, 21, 25, 29, 37, 47, 51, 59

§5.3 #s 1-12 ALL (Show LCD on #s 1-10)
15, 19, 25, 29, 31, 35-6, 39, 47, 53