10/19 Algebra 1 – Downing

Go over test – grades are in

4.1A Writing Linear Equations

Find the slope

★ Slope Formula = $\frac{y_2 - y_1}{x_2 - x_1}$ (x_1, y_1) (x_2, y_2)

Ex) $(-10, 10)$ $(-5, 4)$

$\frac{10-4}{-10-(-5)} = \frac{6}{-5} = \boxed{\frac{-6}{5}}$

$(-10+5)$

Ex) $(-2, 7)$ and $(-1, 4)$

★ Stack Method (like a table)

x	y
-2	7
-1	4

$+1$ ↓ ↓ -3 $\quad m = \frac{-3}{1}$ or -3

Ex) $(0, 2)$ $(5, 0)$

0	2
5	0

$+5$ ↓ ↓ -2 $\quad \boxed{m = -\frac{2}{5}}$

Ex) $f(1) = -2$ $\quad (1, -2)$ $\quad f(2) = -5$ $\quad (2, -5)$

1	-2
2	-5

$+1$ ↓ ↓ -3 $\quad m = \frac{-3}{1}$ or -3

Write the equation of the line in slope-intercept form ($y = mx + b$) that goes through these points: $(2, -3)$ and $(4, 1)$

Work	Steps
1. $+2$ ↓ ↓ $+4$ (2, −3 / 4, 1) $\quad m = \frac{4}{2} = 2$	1. Find slope using "stack method"
2. $(4, 1)$ (x, y) $\quad m = 2$ $\quad y = mx + b$ $\quad 1 = 2(4) + b$ $\quad 1 = 8 + b$ $\quad -8 \; -8$ $\quad -7 = b$	2. Find y-intercept using ONE of your points (x, y) and your slope in $y = mx + b$
3. $y = 2x - 7$	3. Use your "m" and "b" values in $y = mx + b$

Ex) $(1, -2)$ $(3, 10)$

x	y
1	-2
3	10

+2 → +12

$m = \frac{12}{2} = 6$

$y = mx + b$

$10 = 6(3) + b$

$10 = 18 + b$

$-18 \quad -18$

$-8 = b$

$y = 6x - 8$

NO HW

#1, 9, 11 on worksheet done in class