

Quiz Review Notes

3.1 Linear equations

There are 2 forms of linear equations we have learned so far

① slope-intercept form: $y = m x + b$
 ↑ slope ↑ y-int.

② point-slope form: $y - y_1 = m(x - x_1)$
 ↑ slope
 a given point.

how to find the slope

$$\frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} \quad \text{given two points } (x_1, y_1) \text{ \& } (x_2, y_2)$$

how to find the y-intercept

1. find the slope

2. plug into $y = mx + b$

3. plug a pt. in

4. solve for b

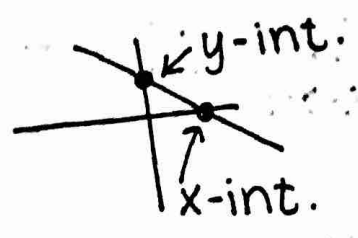
see example on 9/8 notes

2. write in point-slope form

3. solve for y on its own

3.2

- the y-intercept is when $x=0$
- always put in point form
- the x-intercept is when $y=0$
- always put in point form



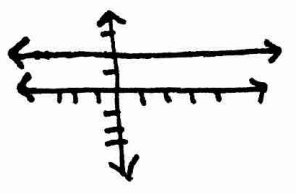
Parallel (\parallel) & perpendicular (\perp) lines

- lines that are \parallel have the same slope (equal slopes)
- lines that are \perp have opposite reciprocal slopes meaning the fractions & sign flip

ex $2 \hat{=} -\frac{1}{2}$, $\frac{5}{7} \hat{=} -\frac{7}{5}$, $\frac{1}{3} \hat{=} -3$

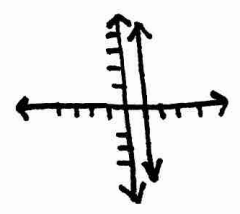
horizontal & vertical lines

horizontal



- always $y = \#$ form
- zero slope aka slope = 0

vertical



- always $x = \#$ form
- no slope, undefined