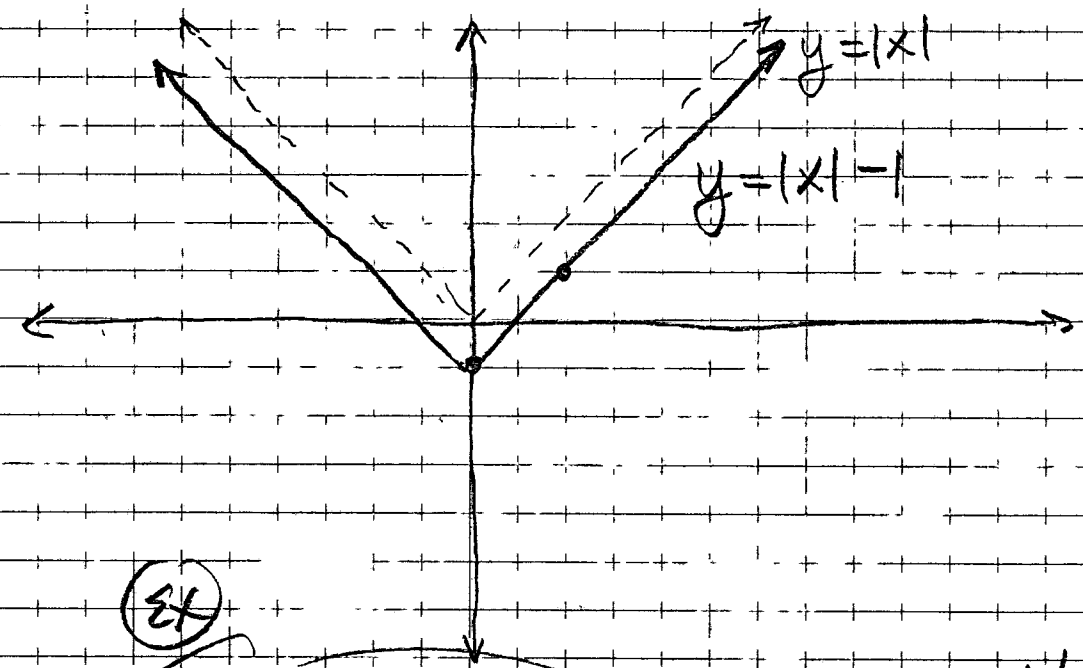
Algebra 1 ← Tues. 2-26-13 Class Notes

(61) Graph $y = |x| + 1$



Ex

x	y=|x|-1
2	|2|+1 = 1

T=Table

Always works

$\Rightarrow y = mx + b$

(78) Write Slope-Intercept form of a linear eq. through $(1, -4)$ and $\parallel$ to $y = -3x + 3$

$(1, -4)$
x, y

$m_{\parallel} = -3$

$y = mx + b$

$-4 = -3(1) + b$

$-4 = -3 + b$

$+3 \quad +3$

$-1 = b$

$y = -3x - 1$

(84) EOL, SI Form through $(-4, 5)$ And $\perp$ to $y = 2x - 5$

$(-4, 5)$
x, y

$m_\perp = -\frac{1}{2}$

$y = mx + b$

$5 = \left(-\frac{1}{2}\right)\left(-\frac{4}{1}\right) + b$

$5 = 2 + b$

$-2 \quad -2$

$3 = b$

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

(85) EOL, through $(-5,-2)$, $\perp$ to $y = -\frac{9}{7}x - 2$

$(-5,-2)$ $\quad m_\perp = \frac{7}{9}$

x, y

$$y = mx + b$$

$$-2 = \left(\frac{7}{9}\right)\left(\frac{-5}{1}\right) + b$$

$$-\frac{18}{9} = -2 = -\frac{35}{9} + b$$

$$+\frac{35}{9} \qquad +\frac{35}{9}$$

$$\frac{17}{9} = b$$

$$\therefore y = \frac{7}{9}x + \frac{17}{9}$$

(87) EOL in S-I Form
through $(-1, -3)$, perp. to $y = -\frac{1}{5}x - 5$

$(-1, -3)$ $m_{\perp} = 5$
x, y

$y = mx + b$

$-3 = 5(-1) + b$

$-3 = -5 + b$

$+5 \quad +5$

$2 = b$

$y = 5x + 2$

(88) through $(-5,-2)$, $\perp$ $y=-\frac{6}{5}x-3$

$(-5,-2)$
x, y

$m_{\perp}=\frac{5}{6}$

$y=mx+b$

$-2=\frac{5}{6}\left(\frac{-5}{1}\right)+b$

$-2=-\frac{25}{6}+b$

$-\frac{12}{6}=-\frac{25}{6}+b$

$+\frac{25}{6} \quad +\frac{25}{6}$

$\frac{13}{6}=b$

$y=\frac{5}{6}x+\frac{13}{6}$

(89) through $(-5, 1)$, $\perp$ to $y = -\frac{1}{3}x - 2$

$(-5, 1)$
x, y

$m_\perp = 3$

$y = mx + b$

$1 = 3(-5) + b$

$+15 \quad +15$

$16 = b$

$y = 3x + 16$

(Ex) through $(-6, 3)$, perp. to $y = \frac{2}{3}x + 5$

$(-6, 3)$ $\quad m_{\perp} = -\frac{3}{2}$

x, y

$y = mx + b$

$3 = \left(-\frac{3}{2}\right)(-6) + b$

$3 = \frac{18}{2} + b$

$3 = 9 + b$

$-9 \quad -9$

$-6 = b$ $\quad \therefore \boxed{y = -\frac{3}{2}x - 6}$