Algebra 1 | Monday 1-7-13 | Class Notes

Ch. 4-10 Transforming Linear Functions

"Family" of Functions

Parent function → transformed functions

(Ex)

Parent linear function

$y = f(x) = x$

$m = 1$

$b = 0$

transformed function ⇒ shifted up 1 unit

$y = x + 1$

$m = 1$

$b = 0$

---

rotated to left (steeper)

$y = 2x$

$m = 2$

$b = 0$

---

rotated and shifted up

$y = 2x + 1$

Vertical Shift	$\pm b$
Rotation	mult. m
Reflect across y-axis "flip over a line"	mult. m by -1

Ex 3b
Pg 303

$y = f(x) = -4x - 1$

$y = f(x) = 4x - 1$

Ex 3b

Pg 303

$y = f(x) = -4x - 1$

Reflect across y axis

MULT THE SLOPE BY -1

$y = 4x - 1$

MOVE UP 3 UNITS

$y = 4x + 2$

Rotate by factor of 2

MULT SLOPE

$y = 8x + 2$

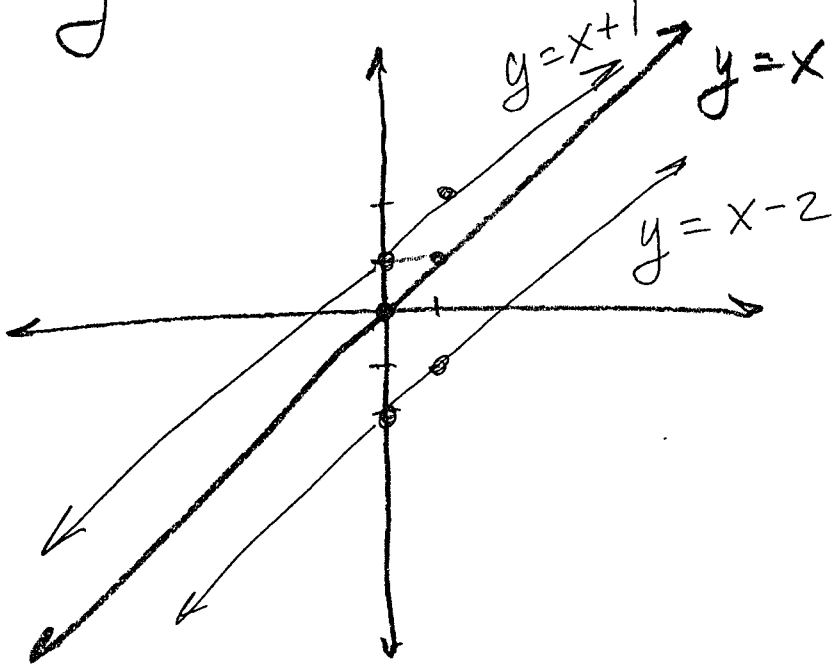
$y = x$ $\quad m = 1$ $\quad b = 0$

$y = x + 1$

$y = mx + b$

$y = x - 2$

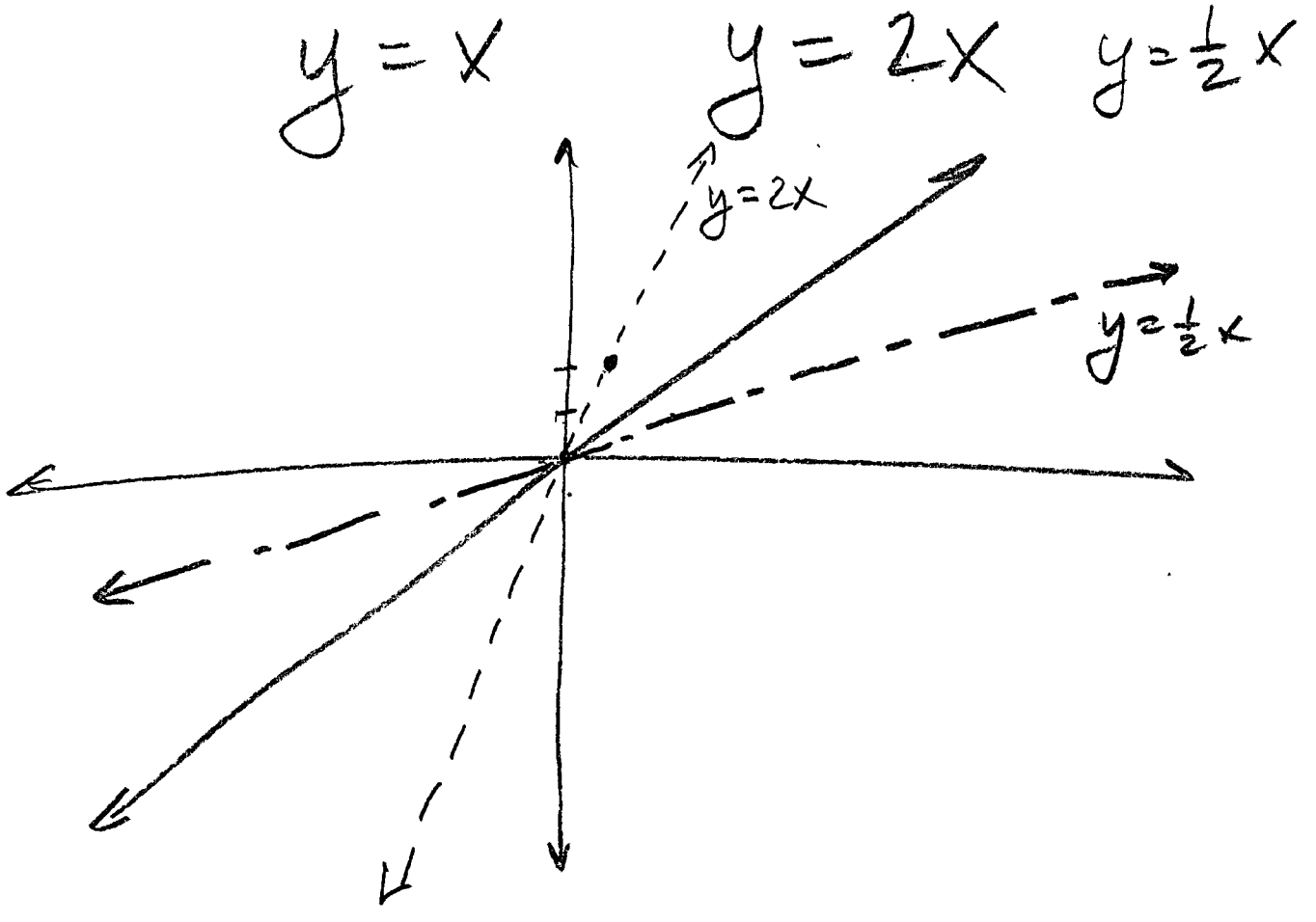
$y = f(x) = x$



transformation of $y = x$

b = VERTICAL SHIFT

$y = x - 4$ $\boxed{y = x}$ Parent Fcn



MULT. SLOPE ⇒ ROTATION TRANSFORMATION