Algebra I | Tuesday 1-8-13 | Class Notes

① EOL in SI Form

through $(-5, 1)$ ($x, y$) // to $y = -\frac{3}{5}x + 4$

* $m_{//} = -\frac{3}{5}$

$y = mx + b$

$1 = -\frac{3}{5}(-5) + b$

$1 = 3 + b$

$-3 \quad -3$

* $-2 = b$

$y = -\frac{3}{5}x - 2$

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Only change if $\perp$

through $(-5, 1)$ ($x, y$) $\perp$ to $y = -\frac{3}{5}x + 4$

* $m_{\perp} = \frac{5}{3}$

$y = mx + b$

$1 = \frac{5}{3}(-5) + b$

$\frac{3}{3} = 1 = -\frac{25}{3} + b$

$+\frac{25}{3} \qquad +\frac{25}{3}$

* $\frac{28}{3} = b$ ($9\frac{1}{3}$)

$y = \frac{5}{3}x + \frac{28}{3}$

## PARENT FUNCTION (LINEAR)

$y = x$

Shift ↕ $\Rightarrow$ $y = x \pm b$

ROTATE $\Rightarrow$ MULT. SLOPE $0 < N < \infty$
(change slope)

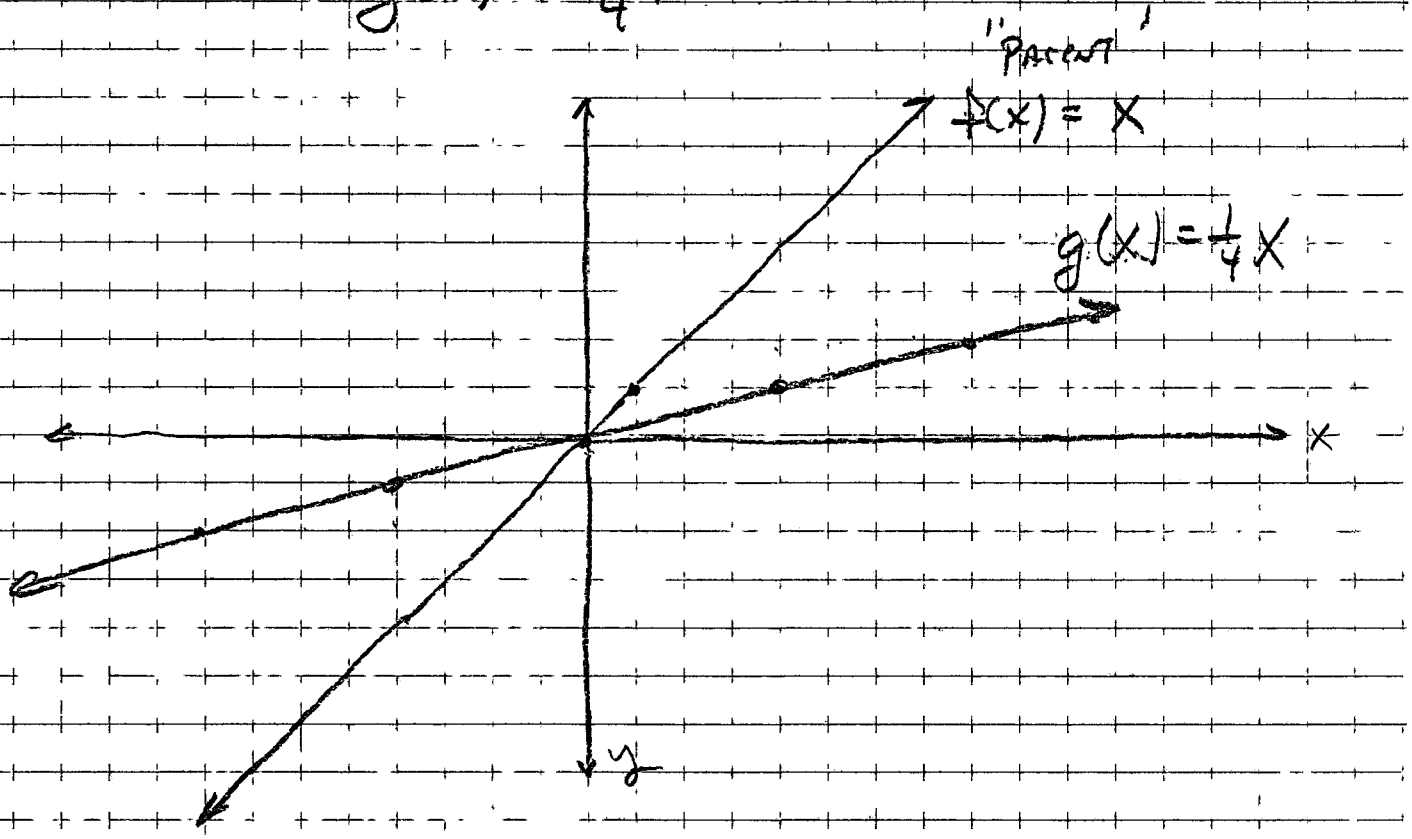
Reflect $\Rightarrow$ MULT SLOPE BY $-1$
ACROSS
y AXIS

## TRANSFORMATIONS

(7) Pg 305

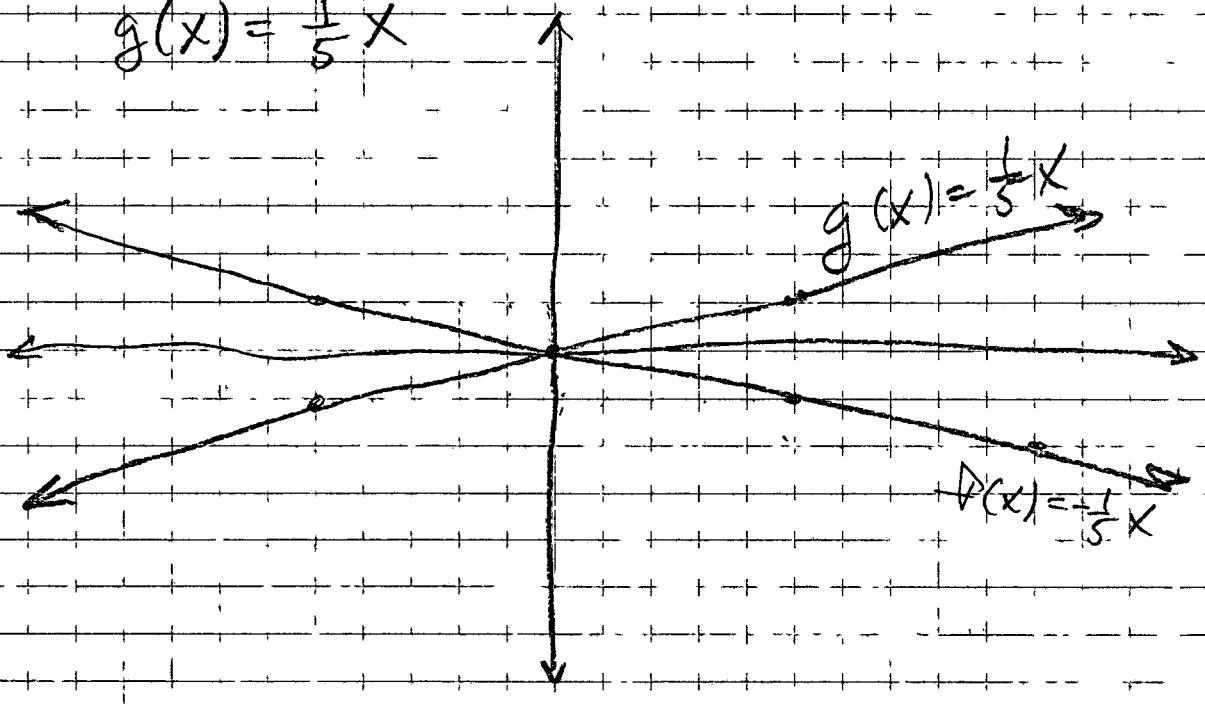
$f(x) = x$

$g(x) = \frac{1}{4}x$




(11) $f(x) = -\frac{1}{5}x$

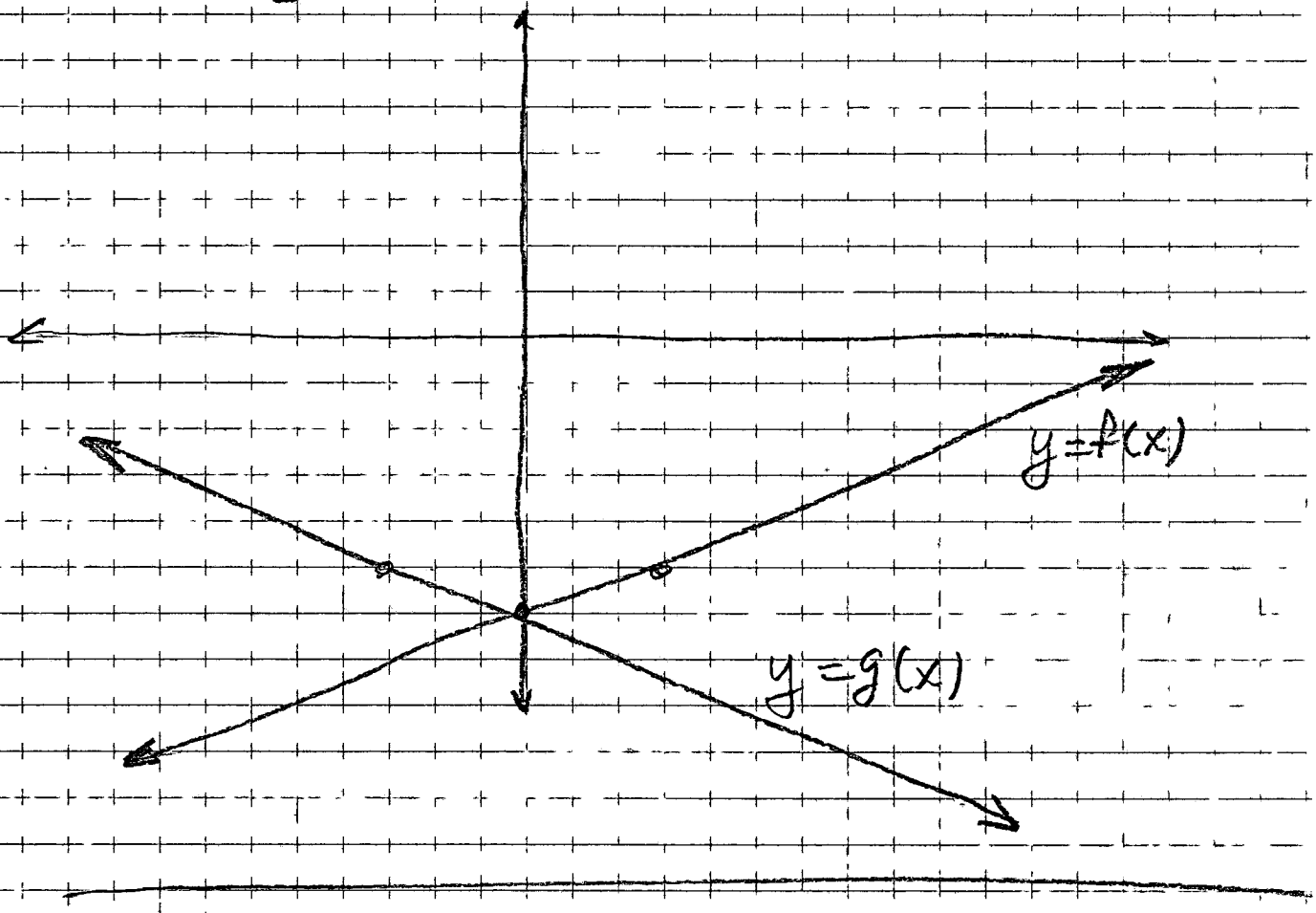
$g(x) = \frac{1}{5}x$



$y = mx + b$

(13) $y = f(x) = \frac{1}{3}x - 6$

$y = g(x) = -\frac{1}{3}x - 6$




(15) $f(x) = x$

$g(x) = 2x - 2$