

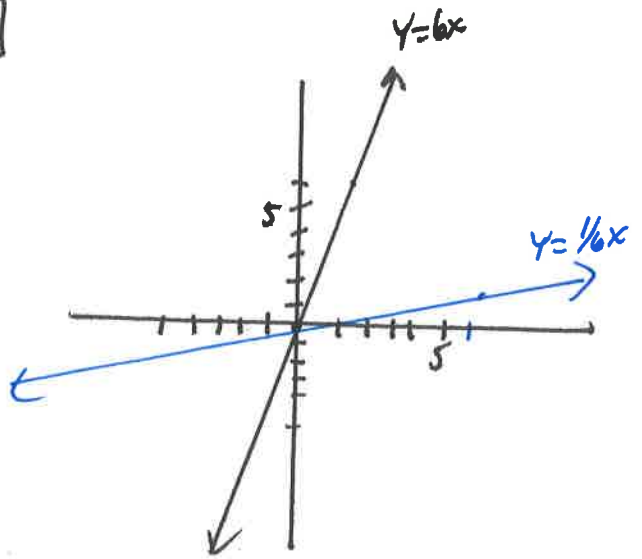
Algebra 2 5.6 Inverses

Pg. 281 [13-17, 22, 23-25, 49, 50]

13 $f(x) = 6x$
 $y = 6x$
 $x = 6y$

$\rightarrow 6y = x$

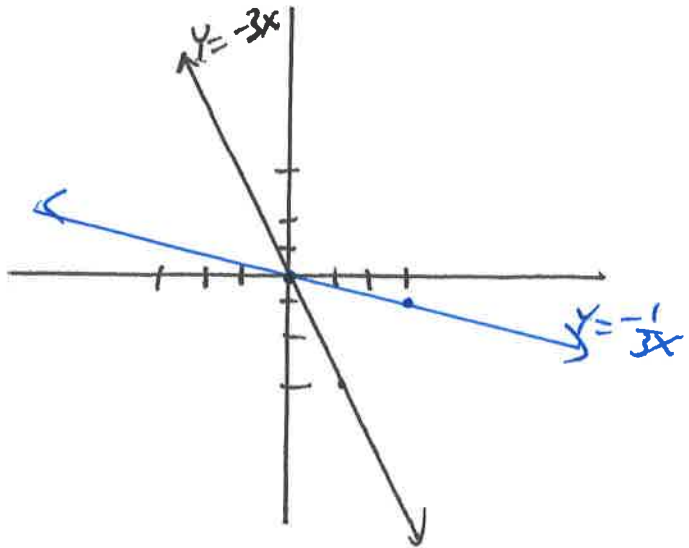
$y = \frac{1}{6}x$



14 $f(x) = -3x$
 $y = -3x$
 $x = -3y$

$\rightarrow -3y = x$

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



15 $f(x) = -2x + 5$
 $y = -2x + 5$
 $x = -2y + 5$

$\rightarrow -2y + 5 = x$

$-2y = x - 5$

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

$y = -\frac{1}{2}x + \frac{5}{2}$

16 $f(x) = 6x - 3$
 $y = 6x - 3$
 $x = 6y - 3$

$\rightarrow 6y - 3 = x$

$6y = x + 3$

$y = \frac{x + 3}{6}$ or $y = \frac{1}{6}x + \frac{1}{2}$

①7) $f(x) = -\frac{1}{2}x + 4$
 $y = -\frac{1}{2}x + 4$
 $x = -\frac{1}{2}y + 4$

→ $-\frac{1}{2}y + 4 = x$
 $\xrightarrow{-2} (-\frac{1}{2}y) = (x-4)$

$y = -2x + 8$

②2) a) Yes → b/c all x's & y's are switched

b) Nope →

2	
8	

 $2 \rightarrow 8$ This is switching

2	
-8	

 $2 \rightarrow -8$ $x \leftrightarrow y$

c) Nope

②3) $f(x) = 4x^2$
 $y = 4x^2$
 $x = 4y^2$
 $4y^2 = x$

→ $y^2 = \frac{1}{4}x$
 $y = \pm \sqrt{\frac{1}{4}x}$

②4) $f(x) = 9x^2$
 $y = 9x^2$
 $x = 9y^2$
 $9y^2 = x$
 $y^2 = \frac{1}{9}x$

→ $y = \pm \sqrt{\frac{1}{9}x}$

②5) $f(x) = (x-3)^3$
 $y = (x-3)^3$
 $x = (y-3)^3$

→ $\sqrt[3]{(y-3)^3} = \sqrt[3]{x}$
 $y-3 = \sqrt[3]{x}$

$y = \sqrt[3]{x} + 3$

(49) $f(x) = 2x - 9$, $g(x) = \frac{1}{2}x + 9$
Show $f \circ g = x$ $g \circ f = x$

$f \circ g: 2(\frac{1}{2}x + 9) - 9$
 $x + 4.5 - 9 \rightarrow x - 4.5$ Not Inverses

(50) $f(x) = \frac{x-3}{4}$ $g(x) = 4x+3$

$f \circ g = \frac{(4x+3)-3}{4} \rightarrow \frac{4x+3-3}{4} = \frac{4x}{4} = x \checkmark$

$g \circ f = 4(\frac{x-3}{4}) + 3 \rightarrow x - 3 + 3 = x \checkmark$

Inverses

