

Algebra 2

- 1) Put unit 1 assignments in order, cover sheet on top
 - 2) Name on cover sheet
 - 3) Staple
 - 4) Hand in
-

Then warmup (review for test)

$$1) f(y) = -3y + 1$$

$$g(y) = 2y^2 + 1$$

find $(f+g)(2)$

$$\begin{aligned} f(2) + g(2) \\ (-3(2) + 1) + (2 \cdot 2^2 + 1) \\ -5 + 9 \end{aligned}$$

4

$$3) f(c) = 3c + 5$$

$$g(c) = 5c - 6$$

$(f \circ g)(c)$

$$= 3(5c - 6) + 5$$

$$= 15c - 18 + 5$$

$$= 15c - 13$$

$$2) f(b) = 2b + 1$$

$$h(b) = b^2 - 3$$

find $(f+h)(b)$

$$2b + 1 + b^2 - 3$$

$$b^2 + 2b - 2$$

$$4) h(x) = x^2 + 2x$$

$$g(x) = x - 7$$

$(g \circ h)(-2)$

$$h(-2) = (-2)^2 + 2(-2)$$

$$= 4 - 4 = 0$$

$$g(0) = 0 - 7 = -7$$

Find inverse

$$f(x) = \frac{2x-1}{3}$$

$$f(x) = 5x$$

$$y = 5x$$

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

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

$$\begin{array}{r} 3x = 2y-1 \\ +1 \quad +1 \\ \hline 3x+1 = 2y \\ \frac{3x+1}{2} = y \end{array} \quad f^{-1}(x) = \frac{3x+1}{2}$$

$$x = 5y$$

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

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

$$f(x) = \frac{3x+1}{2} \quad g(x) = \frac{2x-1}{3}$$

Show inverses:

$$\begin{aligned} (f \circ g)(x) &= \frac{2 \left(\frac{2x-1}{3} \right) + 1}{2} \\ &= \frac{2x - 1 + 1}{2} \\ &= \frac{2x}{2} \\ &= x \end{aligned}$$

$$\begin{aligned} (g \circ f)(x) &= \frac{2 \left(\frac{3x+1}{2} \right) - 1}{3} \\ &= \frac{3x + 1 - 1}{3} \\ &= \frac{3x}{3} \\ &= x \end{aligned}$$

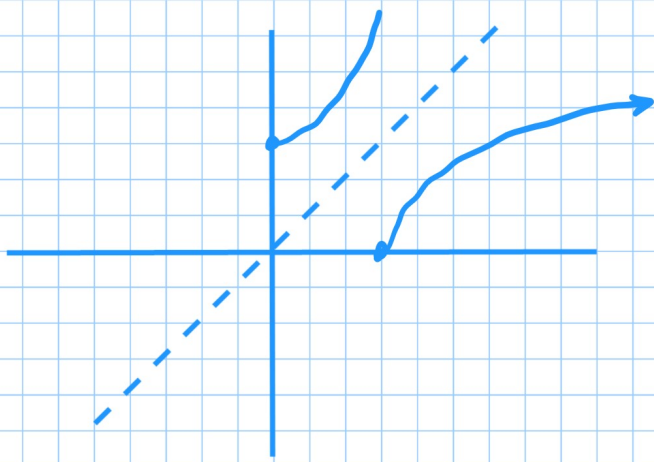
Yes

$$f(x) = -7x \quad g(x) = 3x+1$$

$$(f \circ g)(x) = -7(3x+1) = -21x-7 \neq x$$

not inverses





yes!
because they're reflections
around $y=x$.