#1 $g(x)=\frac{-1}{x+2}$ Find inverse

Step 1: change $g(x)$ to y

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

Step 2: Switch positions of x, y

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

Step 3: Solve for y

$$(y+2)x=\frac{-1}{(y+2)}\cdot(y+2)$$ mult. by $(y+2)$

$$\frac{(y+2)x}{x}=\frac{-1}{x}$$ divide by x

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

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

#4 find inverse of $f(x) = 2x + 5$

$y = 2x + 5$

$x = 2y + 5$

$-5 \quad -5$

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

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

PEMDAS

$\rightarrow \frac{x}{2} = y + \frac{5}{2}$

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

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

#8 $f(x) = \frac{3}{x+1}$

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

$(y+1) \cdot x = \frac{3}{(y+1)} \cdot (y+1)$

$\frac{(y+1)x}{x} = \frac{3}{x}$

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

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

#9 $f(x) = x+4$

$g(x) = x-4$

ARE these equ. inverses.

pick 1 equation and find its inverse.

$f(x) = x+4$

$y = x+4$

$x = y+4$

$x-4 = y$

$g(x) = x-4$

$y = x-4$

$x = y-4$

$x+4 = y$

if this inverse is the same as the other equation. If YES then the 2 equations are inverses.

#10 $h(n) = 2n + 4$

$f(n) = -2 + \frac{1}{2}n$

CHOOSE $h(n)$ and find inverse

$y = 2n + 4$

$n = 2y + 4$

$\frac{n-4}{2} = \frac{2y}{2}$

$y = \frac{n-4}{2}$

$= \frac{n}{2} - \frac{4}{2}$

$= \frac{1}{2}n - 2 = f(n)$ ✓

yes they are inverses

HW #3, 5, 7, 11, 13, 14

#11 $g(x) = 3x - 2$

$f(x) = 2x - 2$

$g(x) = 3x - 2$

$y = 3x - 2$

$x = 3y - 2$

$x + 2 = 3y$

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

write $g(x)$ as y

switch positions of x, y

SOLVE for y

NOT inverses b/c $\frac{x+2}{3} \neq 2x+2$