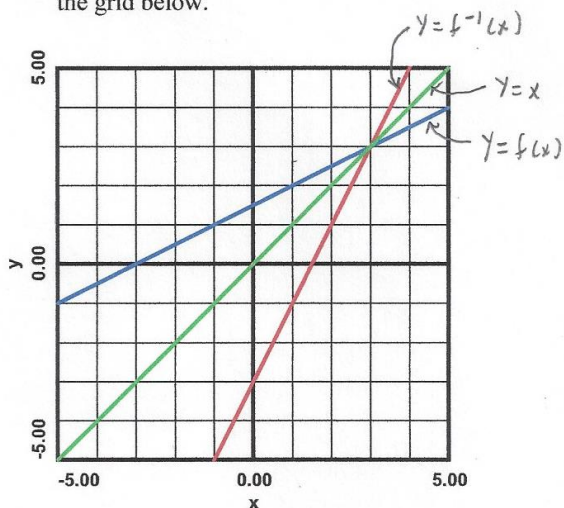


PRE-AP ALGEBRA 2

1) For $y = f(x) = \frac{1}{2}x + \frac{3}{2}$:

- Calculate $y = f^{-1}(x)$.
- Graph $y = f(x)$, $y = f^{-1}(x)$ and $y = x$ on the grid below.



a) $y = \frac{1}{2}x + \frac{3}{2}$, $x = \frac{1}{2}y + \frac{3}{2}$,

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

2B.1 CLASSWORK

- 2) For $y = f(x)$ and $y = f^{-1}(x)$ from problem 1, calculate

- $f(f^{-1}(x))$
- $f^{-1}(f(x))$

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

b) $f^{-1}(f(x)) = 2f - 3 = 2\left(\frac{1}{2}x + \frac{3}{2}\right) - 3 =$
 $= x + 3 - 3 = x$