

1. Given $f(x) = -2x + 3$

a. Find the domain and range of $f(x)$.

D : all reals R : all reals

b. Find $f^{-1}(x)$

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

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

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

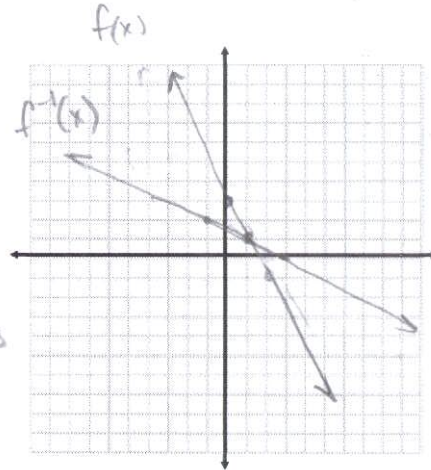
c. Find the domain and range of $f^{-1}(x)$.

D : all reals R : all reals

d. Is $f^{-1}(x)$ a function?

yes

e. Graph BOTH $f(x)$ and $f^{-1}(x)$.



2. Given $f(x) = \sqrt{x+3}$

a. Find the domain and range of $f(x)$.

D : $[-3, \infty)$ R : $[0, \infty)$

b. Find $f^{-1}(x)$

$$y = \sqrt{x+3} \quad y = x^2 - 3$$

$$x = \sqrt{y+3} \quad f^{-1}(x) = x^2 - 3$$

$$x^2 = y + 3$$

c. Find the domain and range of $f^{-1}(x)$.

D : $[0, \infty)$ R : $[-3, \infty)$

d. Is $f^{-1}(x)$ a function?

yes

e. Graph BOTH $f(x)$ and $f^{-1}(x)$.

