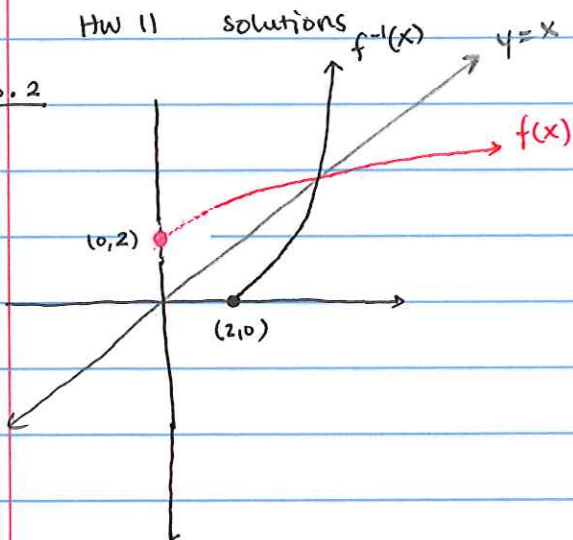


3.6.2



$$D(f) = [0, \infty)$$

$$R(f) = [2, \infty)$$

$$D(f^{-1}) = [2, \infty)$$

$$R(f^{-1}) = [0, \infty)$$

5 pts

3.6.34  $f(x) = \sqrt[3]{2x-3}$

$$D(f) = (-\infty, \infty)$$

$$R(f) = (-\infty, \infty)$$

5 pts

$$x = \sqrt[3]{2y-3}$$

$$x^3 = 2y - 3$$

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

$\Rightarrow$

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

$$D(f^{-1}) = (-\infty, \infty)$$

$$R(f^{-1}) = (-\infty, \infty)$$

3.6.40

$$f(x) = \frac{8x-1}{7-5x}$$

$$x = \frac{8y-1}{7-5y}$$

$$f^{-1}(x) = \frac{7x+1}{8+5x}$$

5 pts

$$\Rightarrow 7x - 5xy = 8y - 1$$

$$\Rightarrow 7x + 1 = 8y + 5xy$$

$$\Rightarrow 7x + 1 = y(8 + 5x)$$

$$\Rightarrow \frac{7x+1}{8+5x} = y$$

$$D(f) = (-\infty, 7/5) \cup (7/5, \infty)$$

$$D(f^{-1}) = (-\infty, -8/5) \cup (-8/5, \infty)$$

$$R(f) = D(f^{-1}) = (-\infty, -8/5) \cup (-8/5, \infty)$$

$$R(f^{-1}) = D(f) = (-\infty, 7/5) \cup (7/5, \infty)$$