

Chapter 1 # 1-6

1

$$f(x) = \frac{5}{2}x - 3$$

$$x = \frac{5}{2}f^{-1}(x) - 3$$

$$\frac{2}{5} \cdot (x + 3) = \frac{5}{2}f^{-1}(x) \cdot \frac{2}{5}$$

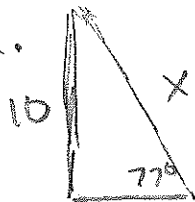
$$\frac{2}{5}x + \frac{6}{5} = f^{-1}(x)$$

or

$$\frac{2x + 6}{5} = f^{-1}(x)$$

2

a.



$$x \cdot \sin(77) = \frac{10}{x} \cdot x$$

$$\frac{\sin(77)}{\sin(77)} x = \frac{10}{\sin(77)}$$

$$x = \frac{10}{\sin(77)}$$

$$x \approx 10.3 \text{ in}$$

b.



$$\tan(21) = \frac{5}{x}$$

$$5 \cdot \frac{1}{\tan(21)} = \frac{x}{5} \cdot 5$$

$$\frac{5}{\tan(21)} = x$$

$$13.3 \approx x$$

3

$$y = \frac{1}{2}x + 5$$

$$2x + (\frac{1}{2}x + 5) = 10$$

$$2x + y = 10$$

$$2\frac{1}{2}x + 5 = 10$$

$$2\frac{1}{2}x = 5$$

$$\frac{2}{5} \cdot \frac{5}{2}x = 5 \cdot \frac{2}{5}$$

$$x = \frac{10}{5} = 2$$

$$y = \frac{1}{2}(2) + 5$$

$$y = 1 + 5 = 6$$

$$2(2) + y = 10$$

$$\begin{array}{r} 4 + y = 10 \\ -4 \quad y = 6 \end{array}$$

$$y = 6$$

$$(2, 6)$$