

On Inverse functions
Spring 2012

1. Suppose $f(x) = 4x + 6$. Evaluate $f^{-1}(5)$. Your answer should be $-1/4$

2. Suppose

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

Show that $F^{-1}(3) = -1/2$

3. Suppose $f(x) = 3x + 2$. Find a formula for f^{-1} .

4. Given

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

- (a) Find the domain of f
- (b) Find the range of f
- (c) Find a formula for f^{-1}
- (d) Find the domain of f^{-1}
- (e) Find the range of f^{-1}

5. Suppose $g(x) = x^7 + x^3$. Evaluate

$$(g^{-1}(4))^7 + (g^{-1}(4))^3 + 1.$$

Your answer should be 5