

**Business PreCalculus**    MATH 1643 Section 004, Spring 2014  
**Answer key: worksheet 18**

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1- Answers:

a. By definition (3),  $f(2) = 4$ .

b. By definition (3),  $f^{-1}(b) = c$ .

c. By definition (4),  $(f \circ f^{-1})(337) = 337$ .

2- By definition (4):

$$(f \circ g)(x) = \frac{\frac{1+2x}{1-x} - 1}{\frac{1+2x}{1-x} + 2} = x$$

And

$$(g \circ f)(x) = \frac{1 + 2\left(\frac{x-1}{x+2}\right)}{1 - \frac{x-1}{x+2}} = x$$

Then  $f$  and  $g$  are inverses of each others.

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