

AP Calculus AB
Review - Inverse Functions

1. Given, $f(x) = 2x - 5$.

a. Show that, $f^{-1}(x) = \frac{x+5}{2}$.

b. Complete the following tables of values:

x	$f(x)$
-5	
-1	
0	
2	
7	

x	$f^{-1}(x)$
-15	
-7	
-5	
-1	
9	

c. What do you notice about the pairs of coordinates on $f(x)$ and $f^{-1}(x)$?

d. Evaluate, $f \circ g$ (or $f[g(x)]$). Comment on the answer.

e. If $f \circ g = x$, then what can you conclude about $f(x)$ and $g(x)$?

2. Given, $f(x) = 3x + 5$, $f \circ g = x$ and $g(a) = 7$. Determine the value(s) of a . Explain your answer.

3. Given, $f(x) = x^2 + 7x + 12$, $f[g(x)] = x$ and $g(0) = m$. Determine the value(s) of m . Explain your answer.

4. Given, $f(-4) = 10$, $f(9) = -4$ and $f^{-1}(-4) = b$, determine the value(s) of b .

5. Given, $f(x) = 1 + \ln(x)$ and $f^{-1}(2) = t$, determine the value(s) of t .