Composition and inverse

[Science](), [Mathematics]()

Composition and Inverse College Composition and Inverse We define the following functions:

f(x) = 2x + 5 g(x) = x2 - 3 h(x) = (7-x)/3

Compute (f – h)(4).

To evaluate (f – h)(4), the function (f – h)(x) may be found first by subtracting the function h(x) from the function f(x). So,

f(x) – h(x) = 2x + 5 – ---☾ f(x) – h(x) =

---☾ (f – h)(x) =

Then upon substitution of 4 into ‘ x’, (f – h) (4) = = 12

Evaluate the following two compositions:

A: (fog)(x) would pertain to a composition where the function g(x) is composed within the function f(x) such that g(x) serves as an expression that replaces ‘ x’ in f(x) as follows

---☾ () (x) = 2 () + 5 = 2x2 – 6 + 5

so the expression x2 – 3 takes the place of ‘ x’ in 2x + 5, then applying distributive property and combining like terms, that reduces to

---☾ () (x) = 2x2 – 1

B: (hog)(x) would pertain to a composition where the function g(x) is composed within the function h(x), and in a similar function (as in part A), g(x) serves as an expression that replaces ‘ x’ herein –

---☾ () (x) = =

so the expression x2 – 3 takes the place of ‘ x’ in (7 – x)/3, then distributing the negative sign into the quantity to remove the parentheses and combining like terms, that simplifies to –

---☾ () (x) =

Graph the g(x) function and transform it so that the graph is moved 6 units to the right and 7 units down.

On transforming g(x) so that the graph shitfs 6 units to the right and 7 units down, the new function would g(x) = - 3 - 7 or - 10 whose graph looks –

2. Find the inverse functions:

C: (x) --- ☾ from y = 2x + 5, variables may be switched so that x = 2y + 5, then isolating the ‘ y’, 5 must be subtracted (both sides) to have x – 5 = 2y, whereupon division by 2,

--- ☾ (x) =

D: (x) --- ☾ from y = (7 – x)/3, switching of variables yields 3x = 7 – y, then adding ‘ y’ on both sides of the equation and subtracting ‘ 3x’ to get ‘ y’ by itself on one side,

--- ☾ (x) = 7 – 3x