**8.6 Combination and Composition of Functions**

**Function Notation Review**

Find the corresponding outputs or inputs for the following functions.

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**Combination of Functions**

Use the following functions for examples 1-3:

$f\left(x\right)=2x+1$ $g\left(x\right)=-4x$ $h\left(x\right)=x^{2}-$4

1. $(f+h)(x)$ 2. $(f-g)(x)$ 3.$(f-g)(3)$

**Composition of Functions**

When the output of a function depends on an \_\_\_\_\_\_\_\_ that is itself the \_\_\_\_\_\_\_\_ of another function

*Compute*  *in two different ways given* *and*.

|  |  |
| --- | --- |
| 1. Find:
2. Find :
3.
 | 1. Find:
2. Find :
 |

|  |  |
| --- | --- |
| **Composition**== | **Explanation**Find $g(x)$. Then use that output to find $f(x)$.Find $f(x)$. Then use that output to find $g(x)$. |

**Use the following functions for examples 1-2:**

$f\left(x\right)=2x+1$ $g\left(x\right)=-4x$ $h\left(x\right)=x^{2}-5$

1. Compute or find. 2. Compute or find .

Now find $(f∘g)(n+2)$ Now find $\left(f∘g\right)\left(\frac{l}{2}\right)$