

## Diagramming Function Composition

$f :: \text{Number} \rightarrow \text{Number}$ Consumes a number, multiplies by 3 to produce the result	$g :: \text{Number} \rightarrow \text{Number}$ Consumes a number, adds six to produce the result	$h :: \text{Number} \rightarrow \text{Number}$ Consumes a number, subtracts one to produce the result
$f(x) = 3x$	$g(x) = x + 6$	$h(x) = x - 1$

For each function composition diagrammed below, translate it into the equivalent Circle of Evaluation for Order of Operations. Then write expressions for *both* versions of the Circles of Evaluation, and evaluate them for  $x = 4$ . The first one has been completed for you.

Function Composition	Order of Operations	Translate & Evaluate	
1) 		Composition: Operations: Evaluate for $x = 4$	$h(g(f(x)))$ $((3 * x) + 6) - 1$ $h(g(f(4))) = 17$
2) 		Composition: Operations: Evaluate for $x = 4$	   
3) 		Composition: Operations: Evaluate for $x = 4$	   
4) 		Composition: Operations: Evaluate for $x = 4$	   