


# Composite Functions

A **composite function** uses the output of one function as the input of another.

$fh(x)$  means that we substitute the **inner function**  $h(x)$  into the **outer function**  $f(x)$ .

↑  
We read this as “ $f$  of  $h$  of  $x$ ”, or “ $fh$  of  $x$ ”.

 **Example** If  $h(x) = x^2$  and  $f(x) = x - 5$  we can find an expression for  $fh(x)$ :

$$fh(x) = f[h(x)]$$

$$= f[x^2] \quad \leftarrow \text{apply the function } h \text{ first (squaring)}$$

$$= x^2 - 5 \quad \leftarrow \text{then apply the function } f \text{ (subtracting 5)}$$