Composite Functions

Name _____

Date _____ Period _____

Given two functions, $f(x)$ and $g(x)$, the composite function, written $f \bullet g$, is defined as

$$(f \bullet g)(x) = f(g(x))$$

Let $f(x) = 2x + 5$, and $g(x) = x^2 + 2$, find the following values.

$(f \bullet g)(1)$ $(f \bullet g)(-2)$ $(g \bullet f)(5)$

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If $f \bullet g = h$, and $h(x) = x^4 - 1$, find the components $f(x)$ and $g(x)$.

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$$(f \bullet g)(x) = f(g(x))$$

If $f \bullet g = h$, and $h(x) = (x^4 - 4)^{10}$, find the components $f(x)$ and $g(x)$.