## Algebra 2

## 5-06 Composition of Functions

## Composition

- Put one function $\qquad$ the other. (Like $\qquad$ _)
- Written $\qquad$
- Said " $g$ of $f$ of $x$ "
- Means that the $\qquad$ (range) of $f$ is the $\qquad$ (domain) of $g$. Work from the inside out. Do $f(x)$ first then $g(x)$.
- $f(x)$ gets $\qquad$ into $g(x)$
Let $f(x)=\sqrt{3 x-5}$ and $g(x)=x^{2}+1$. Find the indicated value.

a. $g(f(2))$
b. $f(g(3))$
c. $g(g(-3))$

Let $f(x)=3 x^{-1}$ and $g(x)=4 x-5$. Perform the indicated operation and state the domain.
a. $f(g(x))$
b. $g(f(x))$
c. $f(f(x))$

Algebra 2 5-06
Name:
The function $C(x)=8.74 x$ represents the cost (in dollars) of producing $x$ shirts. The number of shirts produced in $t$ hours is represented by $x(t)=84 t$. (a) Find $C(x(t))$. (b) Evaluate $C(x(40))$ and explain what it represents.
$271 \# 1,5,9,13,17,21,25,31,33,37,43,45,47,49,51=15$

