Composing/Decomposing Functions

Composite Function : = a function _____ another _____

given functions: _____, _____

composed functions can be denoted as:

♦

♦

♦

Components of a composite function:

example:

given _____ and _____

find $\left(f \circ g \right)(x)$

notice what happens when _____:

A function can also be _____:

Try _____ on your own for extra practice.

Solution: $x^4 - 4x^3 + 14x^2 - 20x + 30$

Evaluating Composed Functions

ex. using same functions as above, find _____

Method #1   Method #2

Composing Functions Containing Fractions

ex. given _____, _____

find _____

now find _____

Resulting Domains

Do: given _____, _____

find _____

what is the resulting domain?

Decomposing Functions

_____ is the process of identifying the _____ and _____ functions of a

_____ function.

For the following examples, assume _____.

ex. Identify the inner and outer functions given _____.

ex. decompose _____   ← *different instruction wording*

Do: decompose _____   Do: decompose _____

tip: pick _____ function such that _____ function is one of the _____ functions