

Name _____

Date _____

Advanced Algebra

Unit 2: Families of Functions

Composition of functions- Good for notes!

Assignment #14

1) A clothing store is having a sale in which you can take \$50 off the cost of any coat in the store. The store also offers 10% off your entire purchase.

a) Show the price taking the \$50 off first and then taking the 10% off.

b) Show the price taking the 10% off first and then taking the \$50 off.

Why doesn't the store apply the 10% discount before subtracting the \$50?

Let $f(x) = 10x$ and $g(x) = x + 4$. For the following, write and simplify an expression for $h(x)$. State the domain and the range of the new function $h(x)$.

<p>1) $h(x) = f(x) + g(x)$</p>	<p>2) $f(x) - g(x)$</p> <p>Domain: _____</p> <p>Range: _____</p>
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3) $f(x) * g(x)$	4) $\frac{f(x)}{g(x)}$ Domain: _____ Range: _____
5) $f(g(x))$	6) $g(f(x))$ Domain: _____ Range: _____
7) $f(f(x))$	8) $g(g(x))$ Domain: _____ Range: _____

Remember from the other side that ...

Let $f(x) = 10x$ and $g(x) = x+4$. Find the following . State the domain and the range of the new function.

