#14 ~ Sect. 7.6: Function Operations (Part 2)

Composition of Functions:

$$(g \circ f)(x) = g\big(f(x)\big)$$

1) Evaluate the inner function f(x) first.

2) Then use your answer as the input of the outer function g(x).

Ex. 1: Let $f(x) = x^3$ and $g(x) = x^2 + 7$.

a) Find $(g \circ f)(2)$.

b) Find $(f \circ g)(2)$.

Ex. 2: A store offers a 20% discount on all items. You have a coupon worth $3.

a) Use functions to model discounting an item by 20% and to model applying the coupon.

b) Use a composition of your two functions to model how much you would pay for an item if the clerk applies the discount first and then the coupon.

c) Use a composition of your two functions to model how much you would pay for an item if the clerk applies the coupon first and then the discount.

d) How much more is any item if the clerk applies the coupon first?