

Hon Alg 2
Unit 2 - Non-Linear Functions
Objective 13

WS #2 Unit 1B

APPLICATIONS OF COMPOSITES

Solve each of the following problems.

1. A manufacturer offers a \$50 rebate on the purchase of a new sofa. The store is also offering an 8% discount. When you purchase a \$299 sofa, in what order would you want to receive these reductions? Show why you made this decision.

$$.92(299 - 50) = \$229.08$$

$$.92(299) - 50 = \boxed{\$225.08}$$

Take 8% discount!

Let $x = \$$
of item

2. As an employee of Sears you receive a 5% discount on all purchases. When an item is on sale for 70% of the marked price, what order of discount results in the lowest price to you?

$$.7(.95x) = .665x$$

$$.95(.7x) = .665x$$

Doesn't matter.

3. There is a store-wide sale with 10% off all merchandise, There is also a 5% sales tax. What percent of the marked price do you actually pay?

$$1.05(.9x) = .945 \text{ or } \boxed{94.5\%}$$

Let $x =$
marked \$

4. The total cost of \$45.95 for a lamp included a 5.5% tax and a 33% discount. What was the original price of the lamp?

$$45.95 = 1.055(.67x)$$

$$45.95 = .7035x$$

$$\boxed{x = \$65.32}$$

Let $x =$
lamp \$