

Standard #24 Model Assessment Items

Computational and Procedural Skills

1. Let $f(x) = 3x + 2$ and $g(x) = 4x$. Find the following:

A. $g(f(2))$

B. $(f + g)(x)$

C. $(f - g)(x)$

D. $(fg)(x)$

E. $(f/g)(x)$

2. What is the inverse of $f(x) = 4x - 6$?

Reminder: If two expressions are inverses of one another their product will equal 1.

Conceptual Understanding

1. Verify that $f(x) = 4x + 9$ and $g(x) = \frac{x-9}{4}$ are inverse functions.

Problem Solving/Application

- A department store is having a "20% - off everything" sale. You also have a \$10 coupon for any purchase.
 - Write the function M that represents the sale price after the 20% discount, and a function K that represents the price of an item after the \$10 coupon.
 - Determine which is the best deal when buying an item costing \$25: discount then coupon, or coupon then discount.
 - What would be the initial price of an item for which the values of M and K would be the same?