Name _____   Date _____

Quantities and Descriptive Modeling - Step-by-Step Lesson

During the festive season, Daniel wants to paste wallpaper on the corner of one of his store's walls. He measures and finds that he needs 42 linear feet of wall paper.

Daniel went to the market, found the wall paper he wanted and realized that it came in three sizes:

10 foot roll- $ 20

12 foot roll- $ 18   (On Special)

15 foot roll- $ 15.50

How can he cover the 42 linear feet the most cost-effectively?

Explanation:

First, we will find out the unit price of each roll of wallpaper:

10 foot roll - $ 20   Price per foot = $20 ÷ 10 = $1.39

12 foot roll - $18   Price per foot = $18 ÷ 12 = $1.5

15 foot roll - $15.50   Price per foot = $15.50 ÷ 15 = $1.03

We will want to use the most cost-effective wallpaper possible. We should use the larger rolls of wallpaper as much as possible because they are cheaper per unit.

Let's see out options:

Option 1: We could cover the exact square footage.

42 feet = 2(15 foot) + 1(12 foot)

2($15.50) + 1($18)   = $49.00

Option 2: Cover all the distance with the cheapest cost per unit.

3 (15 foot)

3 ($15.50) = $46.50

$46.50 < $49.00

Buying 3 packs of 15 foot rolls is the most cost-effective.