

### Answer on Question #44765 – Economics – Macroeconomics

The initial price of a good is  $2.5X$ . A week later it drops 15%. A week later it drops another 20%. It still doesn't sell, so the manager marks it down an extra \$10 in week 3. If you buy it for 30% of the original price, what was its price after the markdown in week 2?

#### Solution

If the initial price is  $2.5X$ , then the price after the markdown in week 2 will be  $2.5X \cdot (1 - 0.15) \cdot (1 - 0.2)$ . And after the price is decreased by \$10 and becomes 30% of the original price, so  $2.5X \cdot (1 - 0.15) \cdot (1 - 0.2) - 10 = 0.3 \cdot 2.5X$

$$2.5X \cdot 0.68 - 10 = 0.3 \cdot 2.5X$$
$$0.38 \cdot 2.5X = 10$$
$$0.38X = 4$$
$$X = 4 / 0.38 = \$10.53$$

So, the price after the markdown in week 2 will be  $2.5 \cdot 10.53 \cdot 0.68 = \$17.9$