

Math &107

Homework Activity #1

Mr. Wildman enjoys vegetable gardening! If you are lucky you might get some zucchini! He would like to construct 3 raised bed gardens. Each garden is 7 feet long and 4 feet on the side and will rise to height of 30 inches. His helpful son built the planters for him, but then he had to go off to college and so Mr. Wildman needs some help to fill these planters.

1. How many cubic yards of dirt will he need to fill these gardens?
2. Unfortunately the “dirt store” only sell dirt in $\frac{1}{2}$ cubic yards increments (meaning you can’t buy 2.3 cubic yards for example). If the dirt costs \$50 per cubic yard, how much will Mr. Wildman need to pay to fill his gardens?
3. In reality, a gardener should place a layer of gravel 3 inches deep in the bottom of each raised bed planter to aid in drainage. How much gravel will he need to place in each planter and how much total gravel will he need. Oh by the way the “dirt store” sells gravel only in $\frac{1}{2}$ cubic foot increments and these cost \$3.80 per cubic foot. How much will Mr. Wildman need to spend on gravel
4. Will you have to adjust the amount of dirt you need in light of your answer in part 3? If you do what is the new amount you need and what is the new cost?
5. Now you are to determine the total cost for the dirt and gravel for the gardens. You should take the following into consideration:
 - a. Sales tax in Spokane is 8.7%
 - b. Mr. Wildman needs the material delivered to his house. This will cost an extra \$25 (but is not subject to tax)
 - c. The “dirt store” dumps the material in his driveway. Being that he is old and weak he can’t move the material himself. So he hires a poor college student to do the work for him. He agrees to pay him \$10 per hour. The student can transfer 8 wheelbarrows (of 6 cubic feet each) per hour. So you need to consider the cost of the college student in your total