**Instructional Delivery Questions:**

1. What is the area of the room? (This will give you the total square footage of the room.)

2. If the carpet you’ve selected is $20 per square yard, the sales tax is 6%, and the carpet is sold in rolls that are 12 feet wide, what size carpet length would you need to buy (in feet)?

3. How much would the carpet cost, including tax? (Hint: There are 9 square feet per square yard.)

4. Now consider laying tile instead of carpet in this same room. If tiles are sold in boxes of twelve one-foot square tiles, and partial boxes are not available, how many boxes would you need to buy to cover this room with tile? The salesperson recommend a 5% increase in your square footage to account for waste.

5. If the tile you chose costs $6 per square foot, installed, and the sales tax is 6%, how much will the tile and the installation job cost?

**Guided Practice**

1. What is the square footage of the home?

2. How many square feet of floor space are in each of the following areas?

a. Kitchen/dining room

b. Living room

c. Master bath and hall bath (including hall bath entry) combined

d. Hallway, hall closet and utility room combined

3. You have decided to install floor tiles in the kitchen/dining room, living room, both baths, hall bath entry, hallway, hall closet and utility room. The flooring company salesperson recommends that you increase your square footage requirement by 5% to compensate for waste. How many square feet of tile are needed?

4. Tiles are sold in boxes of twelve one-foot square tiles and partial boxes are not sold. The tile that you selected costs $5.75 per square foot, installed, based on the total number of tiles purchased. The sales tax rate is 8.25%.

a. How many boxes of tile must you purchase?

b. How much will it cost to install the tile, including sales tax?

5. How many square feet of floor is in all the bedrooms and bedroom closets, combined?

6. You plan to carpet the bedrooms and closets. The carpet costs $24.95 per square yard, installed, and the sales tax rate is 8.25%. The carpet is sold in rolls that are 12 feet wide, so a 3 foot length equals 4 square yards. The salesperson recommends that you purchase a 45 foot length of 12 foot wide carpet.

a. The 45 foot length of carpet is how many square yards of carpet? (Hint: There are 9 square feet per square yard.)

b. Is that enough carpet for this job?

c. How much will it cost to install enough carpet, including sales tax?

7. What is the total cost (including tax) for the new tile and carpeting in your home?

**Guided Practice Answer Key**

1. What is the square footage of the home?

20+9+13=14+4+12+12

42=42

12+22=16+6+12

34=34

42x34=1,428 square feet

2. How my square feet of floor space are in each of the following areas?

**a. Kitchen/dining room 20x12=240 square feet.**

You must subtract the counter space. The counters would not need flooring.

2x7=14

14 x 3 same size counters=42 square feet

240-42=198 square feet

**b. Living room**

14x22=308 square feet

**c. Master bath and hall bath (including hall bath entry) combined**

Master bath: 9x7=63 square feet

hall bath and hall bath entry: 9x5=45 square feet 6x4=24 square feet

45+24=69 square feet

All three combined: 69+63= 132 square feet

**d. Hallway, hall closet and utility room combined**

hallway: 19x6=114 square feet

hall closet: 5x4=20 square feet

utility room: 4x4=16 square feet

Combined:150 square feet

**3. You have decided to install floor tiles in the kitchen/dining room, living room, both baths, hall bath entry, hallway, hall closet and utility room. The flooring company salesperson recommends that you increase your square footage requirement by 5% to compensate for waste. How many square feet of tile are needed?**

kitchen/dining room: 198 square ft.

living room: 308 square feet

both baths: 63+45=108 square feet

hall bath entry: 24 square feet

hallway: 114 square feet

hall closet: 20 square feet

utility room: 16 square feet

Combine all these: 198+308+108+24+114+20+16=788 square feet

Now, you must find 5% of 788 and add it to the original total.

Change 5% to a decimal: .05

.05x788=39.4

788+39.4=827.4

You need 828 square feet of tile for this renovation.

**4. Tiles are sold in boxes of twelve one-foot square tiles and partial boxes are not sold. The tile that you selected costs $5.75 per square foot, installed, based on the total number of tiles purchased. The sales tax rate is 8.25%.**

a. How many boxes of tile must you purchase?

828/12=69 boxes of tile

b. How much will it cost to install the tile, including sales tax?

828x$5.75=$4,761 without sales tax

.0825x$4,761=$392.78

$4,761+$392.78=$5153.78 tax included

5. How many square feet of floor is in all the bedrooms and bedroom closets, combined?

bedrooms: 208+144+144=496 square feet

closets: 24+24+54=102 square feet

Combined: 496+102=598 square feet

6. You plan to carpet the bedrooms and closets. The carpet costs $24.95 per square yard, installed, and the sales tax rate is 8.25%. The carpet is sold in rolls that are 12 feet wide, so a 3 foot length equals 4 square yards. The salesperson recommends that you purchase a 45 foot length of 12 foot wide carpet.

a. The 45 foot length of carpet is how many square yards of carpet? (Hint: There are 9 square feet per square yard.)

You must find the area of the carpet length in square ft and then divide by 9 to determine the number of square yards.

45x12=540 square feet

540/9=60 square yards

b. Is that enough carpet for this job?

No, the total square feet is 598 not 540.

c. How much will it cost to install enough carpet, including sales tax?

n x 12=598 Solve for n. 598/12=49.83. You must round up to 50 feet in order to have enough carpet.

50x12=600

600/9=66.67 yards

66.67x$24.96=1664.08 without sales tax

$1664.08 x.0825=$137.29

$1664.08+$137.29=$1,801.37

7. What is the total cost (including tax) for the new tile and carpeting in your home?

Tile: $5,153.78

Carpeting: $1,801.37

Combined: $6,955.15

**Independent Practice:**

1. What is the area of the room? (This will give you the total square footage of the room.)

2. If the carpet you’ve selected is $25 per square yard, the sales tax is 6%, and the carpet is sold in rolls that are 12 feet wide, what size carpet length would you need to buy (in feet)?

3. How much would the carpet cost, including tax? (Hint: There are 9 square feet per square yard.)

4. Now consider laying tile instead of carpet in this same room. If tiles are sold in boxes of twelve one-foot square tiles, and partial boxes are not available, how many boxes would you need to buy to cover this room with tile? You must increase the square footage by 5% to account for waste.

5. If the tile you chose costs $6 per square foot, installed, and the sales tax is 6%, how much will the tile and the installation job cost?