1)

win = 5 \* 3 \* 10;

semiWin = (3.14159265358 \* 9);

door = 7 \* 4;

outArea = (7 \* 30) + (2 \* 12 \* 30) + (2 \* 12 \* 54);

outPaint = (((outArea - door) - semiWin) - win);

paintCans = (outPaint / 450)\*2;

outCost = paintCans\*28.95;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Total Area | Choice #1 cost | Choice #2 cost | Dimensions |
| Paint | 2019.73 square feet | $260.55 | $260.55 | 9 cans of paint |

2)

carpArea = (11 \* 12 + 12 \* 11 + 14 \* 14)/9;

carpBuy = (15 \* 11 + 15 \* 12 + 15 \* 14)/9;

carpCost1 = carpBuy \* 18.95;

carpCost2 = carpBuy\* 29.95;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Total Area | Choice #1 cost | Choice #2 cost | Dimensions |
| Carpet | yards | $985.40 | $1,557.40 | 10.4 by 5 yd roll |
|  |  |  |  |  |

3)

tileArea = 10 \* 14 + 12 \* 14;

tileCost1 = (tileArea / 12) \* 29.95;

tileCost2 = (tileArea / 12) \* 38.95;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Total Area | Choice #1 cost | Choice #2 cost | Dimensions |
| Tile | 308 feet | $778.70 | $1,012.70 | 26 boxes |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Most expensive pairing: | choice #2 carpet | choice #2 tile | total= $ 2804.03 |
| least expensive pairing: | choice #1 carpet | choice #1 tile | total= $ 2007.81 |
| pairing: | choice #2 carpet | choice #1 tile | total= $2596.75 |
| paring: | choice #1 carpet | choice #2 tile | total= $ 2258.65 |

To complete this project, we had to split the tasks up between all our group members. This was made easy, as four people in a group is quite an adequate amount of man-power, and the workload can easily be split up. Christine completed the initial calculations on the excel spreadsheet. Afterwards, Zach made sure that all the calculations were performed correctly, as well as that all the numbers made sense. I created the code for the Valda Budget Manager which would be displayed in class, as well as used to calculate the cost for the every-day consumers. Finally, Rohan created the PowerPoint presentation which will be displayed for the in-class presentation.

Our process was a fairly straightforward thinking process, with a rather linear path. First we computed the area of the house outside that needed to be painted. This was excluding the windows, as well as excluding the door, which would not need to be painted. Next, we multiplied the area by two, as two coats of paint were needed. Afterwards, we divided by 450, as that is how much area a single gallon covers. This resulted in slightly less than 9 gallons. That, however, needed to be rounded up to nine gallons, as no one will specially sell us the exact amount of paint that we need. We repeated the process with the carpet, as well as the tiles. With the carpet, we needed to divide by 9, due to the carpet coming in square yards, however we originally measured in feet. When it came to the tiles, we divided the area by 12, as that is how many square foot tiles were in a single box. After all the calculations were completed, we had to make our decision.

We decide to go with the least expensive pairing of tile and carpet due to the fact that they are the cheapest choices. It is always nice to have some spare money, just in case an accident happens and an inevitable repair is needed (this is known from personal experience ☺ ). If no accidents happen to occur during the build, and we still have a nice amount of money left over, then we may possibly purchase a new hot tub or trampoline. If possible, we may even splurge a little and buy both, so that we may have some nice furnishings for both the outside and the inside of our house. That way we may enjoy our house no matter the season it is.