Directions: You’re the designer. The required volume or area of each item in the new hotel is listed below. Using what you know about squares and cubes, write an equation that models the volume or area. Then, solve the equation to determine the necessary length of each side or edge.

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| Rug400 ft2 |  |
| Soap8 in3 |  |
| Water cup27 in3 |  |
| Coaster16 cm2 |  |
| Room card4 cm3 |  |
| Sugar cube2 cm3 |  |
| Foot stool 27 ft3 |  |
| Patio49 ft2 |  |
| Pillow case4 ft2 |  |
| Bathroom mirror25 ft2 |  |