

EMPTY SPACE IN A ROOM PACKED WITH BALL BEARINGS

The length, width, and height of Room B-26 are 23 feet 11 inches, 24 feet 7 inches, and 9 feet 8 inches, respectively. The diameter of a small ball bearing is 0.185 inches. We determined that 1,550,128,338 of these ball bearings would fit in the room.

Find the volume of one ball bearing of diameter 0.185 inch. Use the π key on your calculator and round the volume to 6 decimal places.

Find the total volume of 1,550,128,338 of these ball bearings.

Find the volume of the room in cubic inches.

Since the ball bearings are spheres, there would be empty spaces among the ball bearings packed in the room. Determine the amount of empty space.

