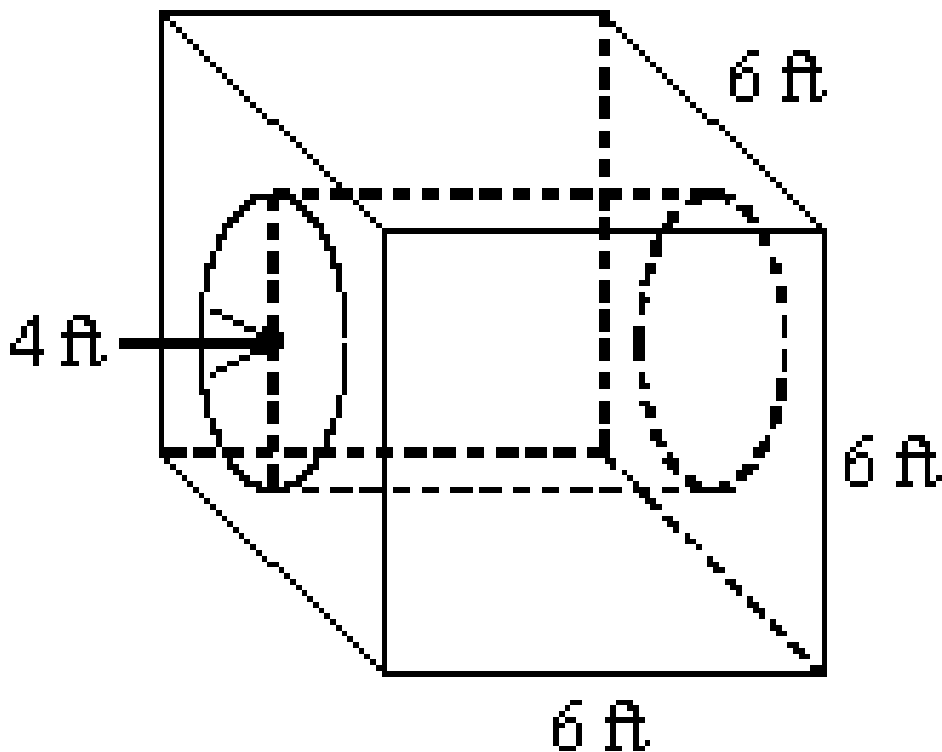


#1

A steel block has a cylindrical hole 4 feet in diameter drilled through it. How many cubic feet of steel are left in the block? Round your answer to the nearest tenth.



#2



An Ice cream "scoop" is approximately a sphere with a 2 inch diameter.

The container ice cream comes in is a cylinder with a 4 inch diameter, and 6 inch height. How many "scoops" are there in the container?

#3

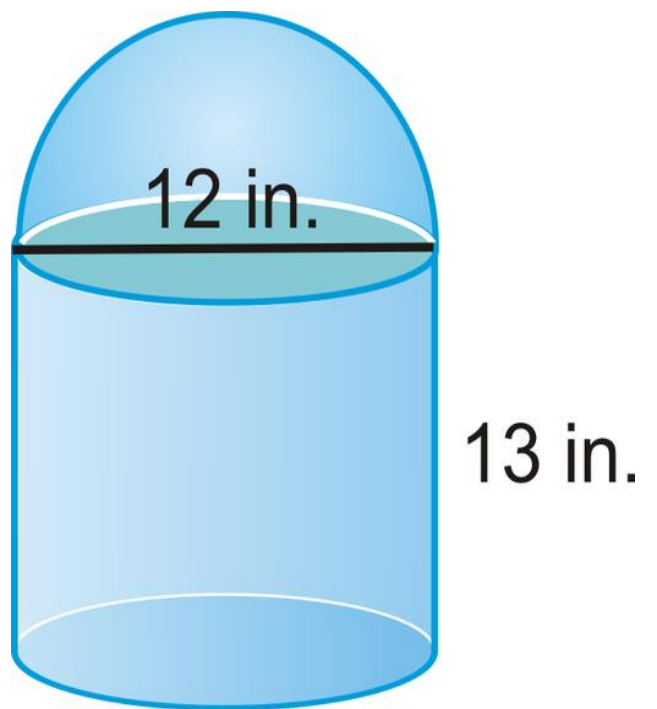
The weight of 1 cubic foot of water is 62.5lbs.



If this tank
(1x2x3) is full
of water, how
much will it
weigh?

#4

Grandma keeps all sorts of weird things under glass domes. How many square inches (surface area) of glass is the dome made from?
(There is not bottom)



#5

STAR WARS

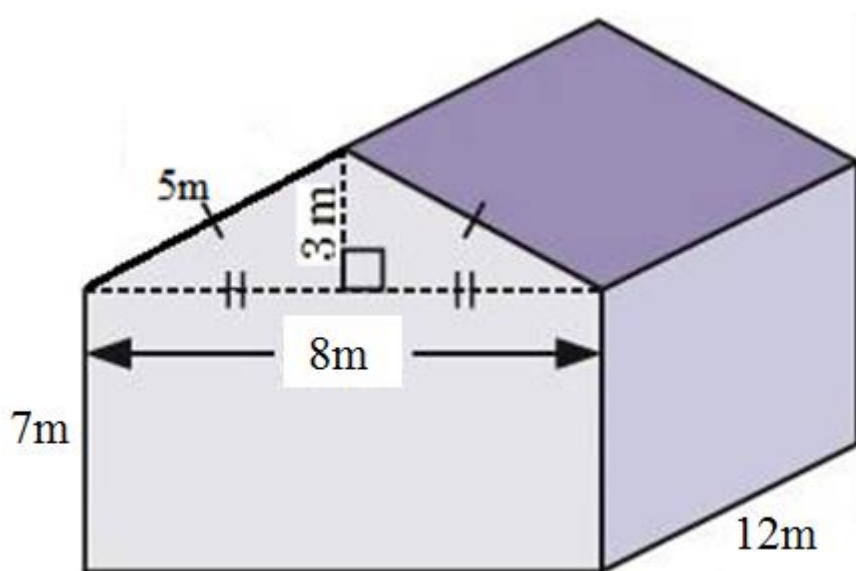


This building is an 8 ft diameter hemisphere (half of a sphere) on top of a rectangular prism that is 12 ft wide, 10 ft long, and 9 ft high.

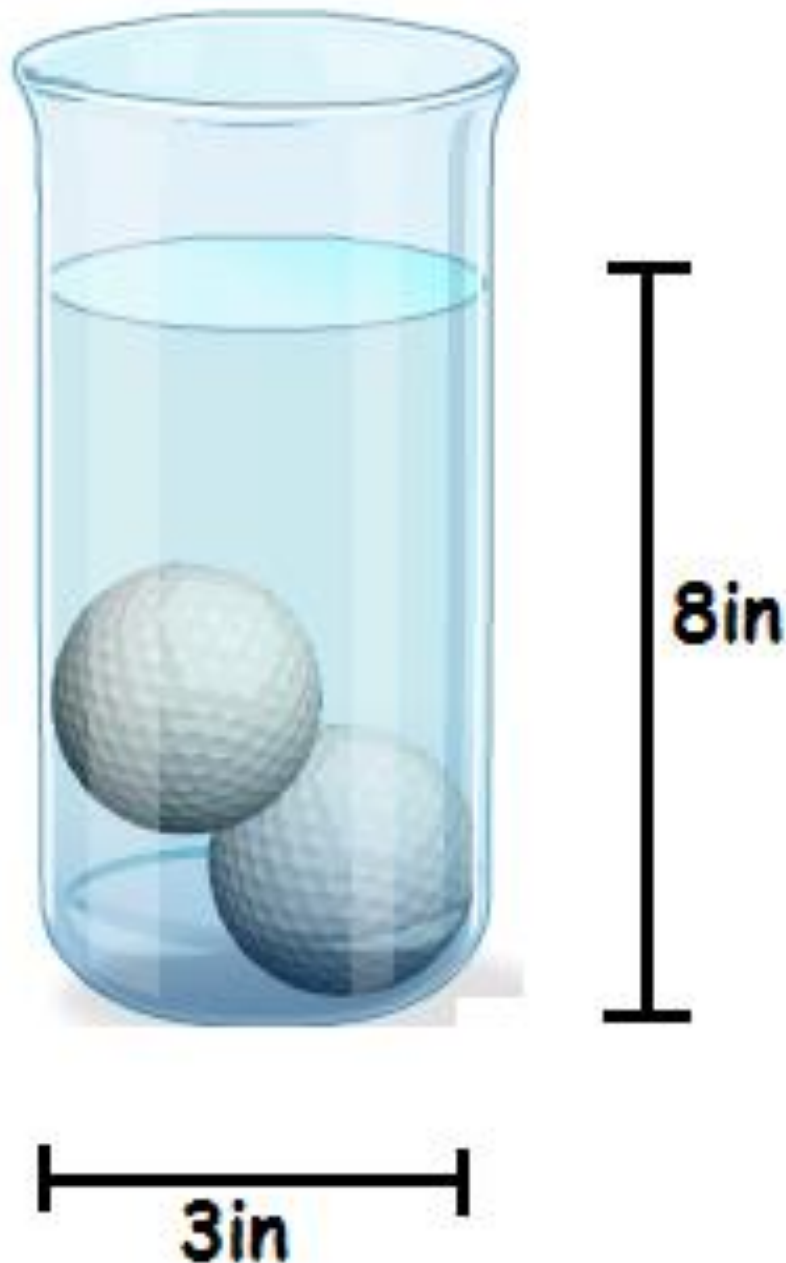
What is the volume of this house?

#6

This house (4 walls and 2 parts of the roof) are covered in ivy. How many square feet of ivy is covered?



#7 The picture below shows 2 golf balls in a beaker of water. The beaker is a cylinder with a diameter of 3 inches, and is full of water up to 8in with 2 golf balls in it. If the radius of a golf ball is 0.85in, what is the volume of just the water?
Round your answer to the nearest tenth.



#8



This is the Luxor Hotel in Las Vegas Nevada.

It is a giant pyramid that has a square base with side lengths of 600ft, and a height of 350ft.

Pete was hired to clean the outside windows.

The *entire* outside is windows (4 slanty-walls).

If a bottle of Windex covers 200 ft^2 and costs \$4.50.

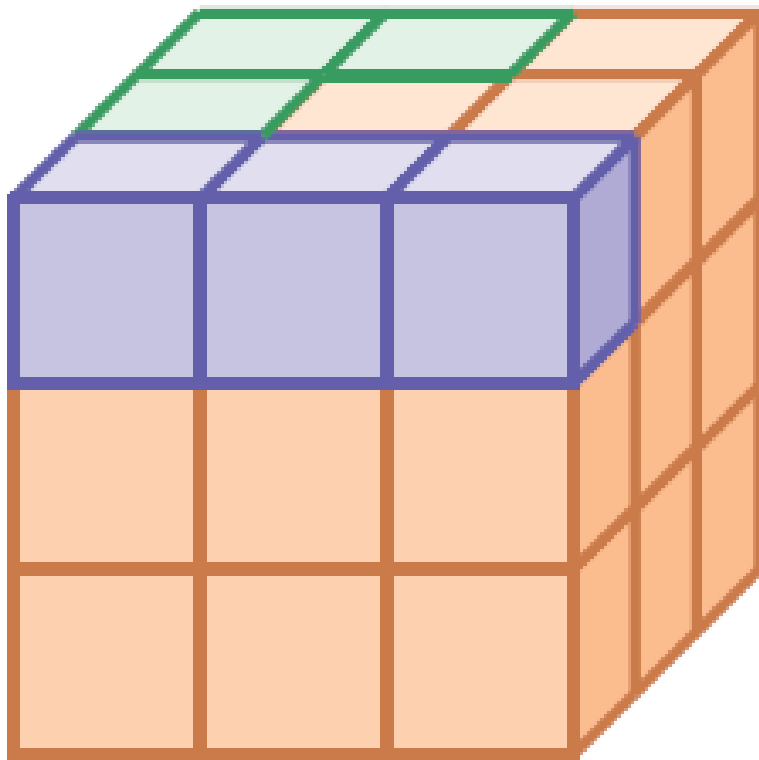
How much does Pete need to spend on Windex?

#9

The cube shown is formed with 27 identical cubes. All the cubes you cannot see in the picture are orange cubes.

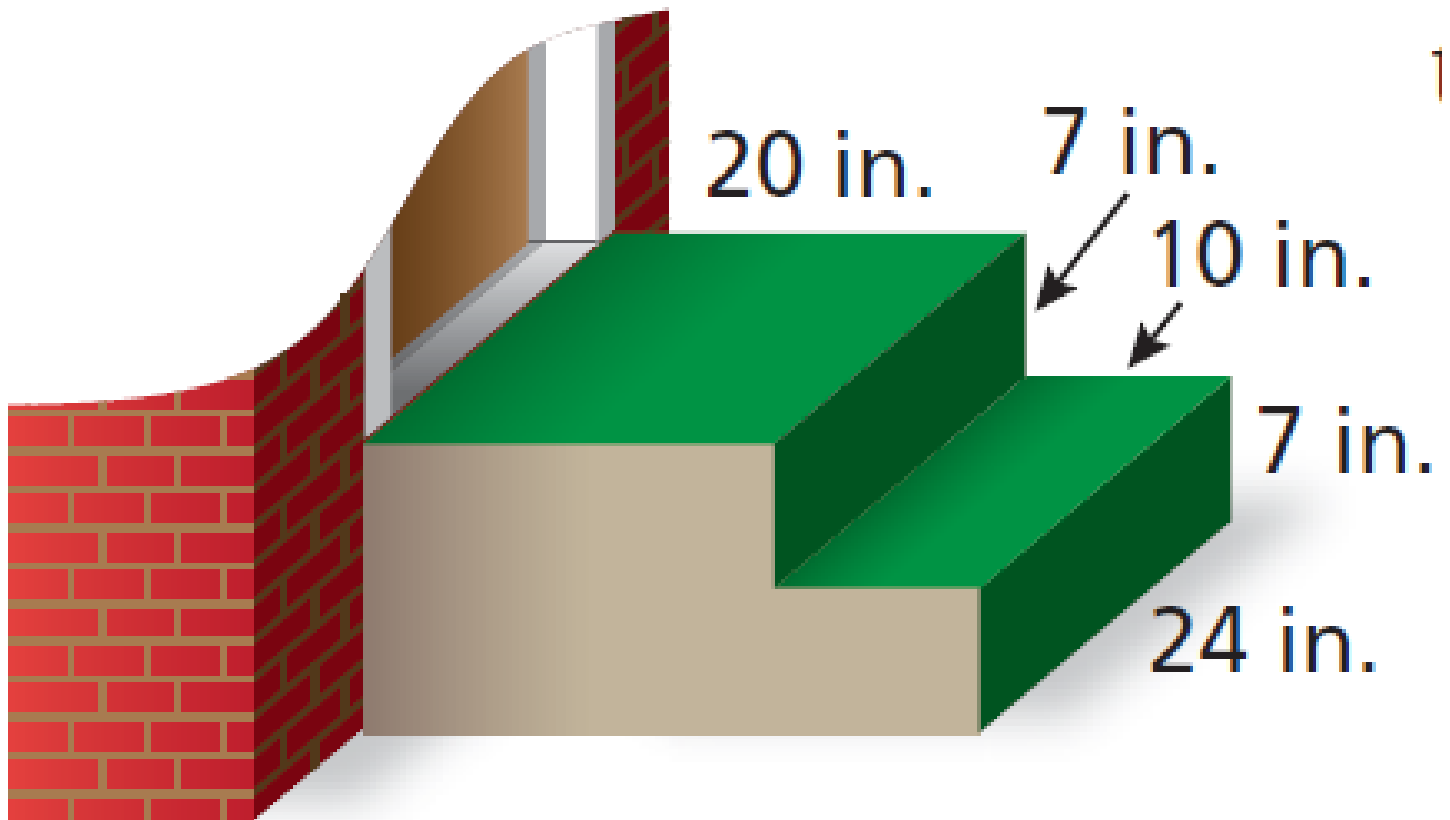
What is the surface area of the object formed by *just the green cubes*?

What is the surface area of the object formed by *just the purple cubes*?



#10

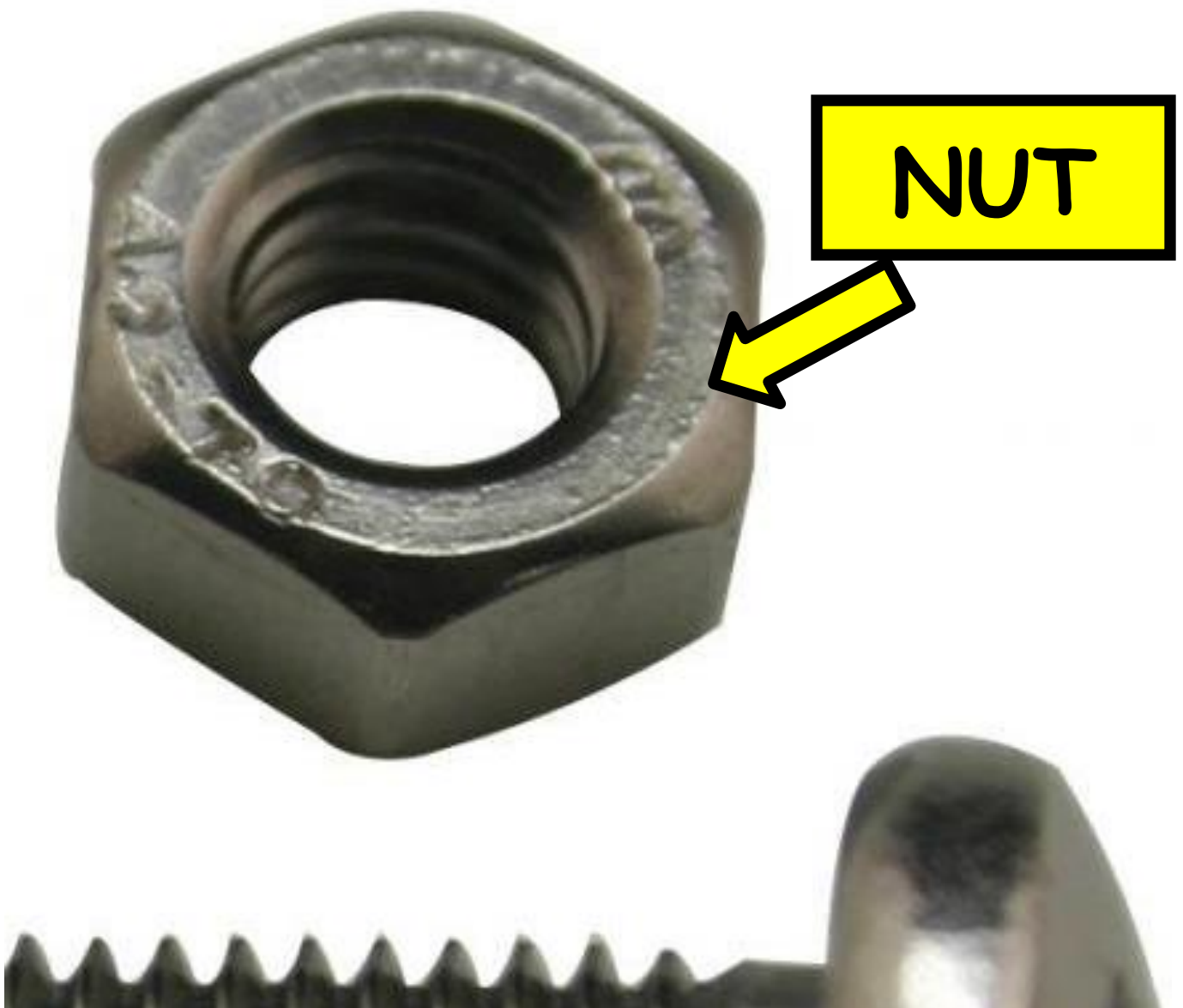
You painted the steps to an apartment green. A diagram of the steps is shown, and all the parts you painted are shown. How much paint did you use? (surface area of the painted regions)



#11

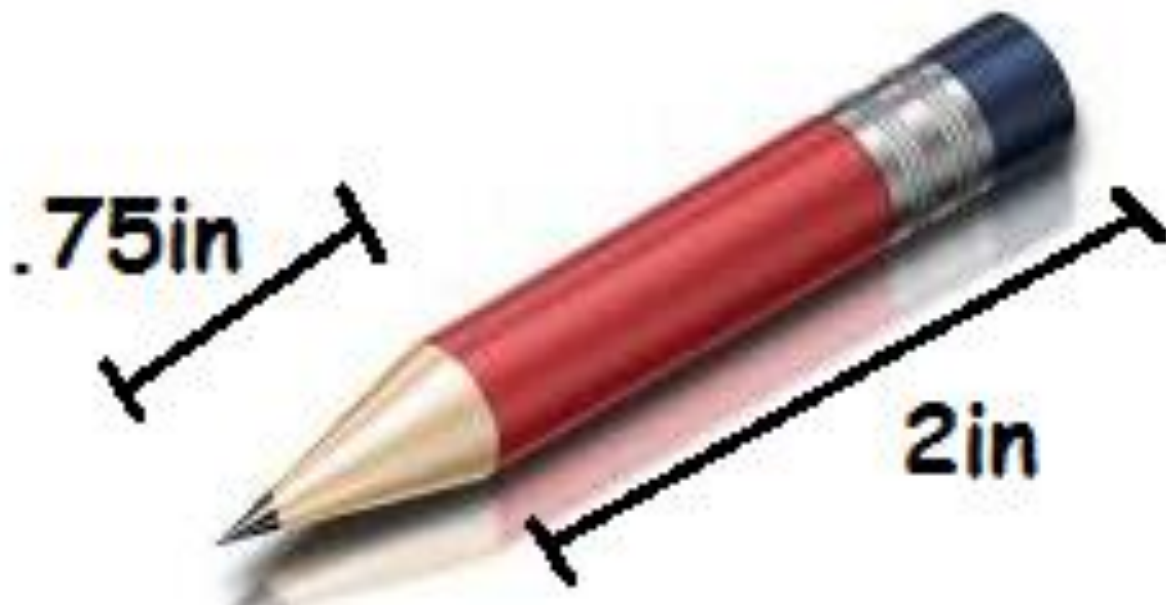
A "nut" is a hexagonal prism with a cylindrical hole
(The hole is "threaded" for a screw, but we will ignore that for this problem)

If each side of this nut has a length of 10mm, an apothem of 8.7mm, and a height (of the prism) of 6mm. The hole in the nut has a radius of 5mm. How many cubic millimeters of aluminum are needed to make this object?



#12

Find the volume of the pencil shown if the radius of the pencil is 0.25cm.



#13

Planet X is covered in alien slime. If the planet has a radius of 1,000 miles, and the slime covers 72% of the planet, what is the surface area of the slime?



#14

Mr. B's basement is rectangular in shape.

Mr. B's basement is 20 ft wide and 18 feet long.
It filled with water 3 ft deep...

1. How many cubic feet of water is in the basement?

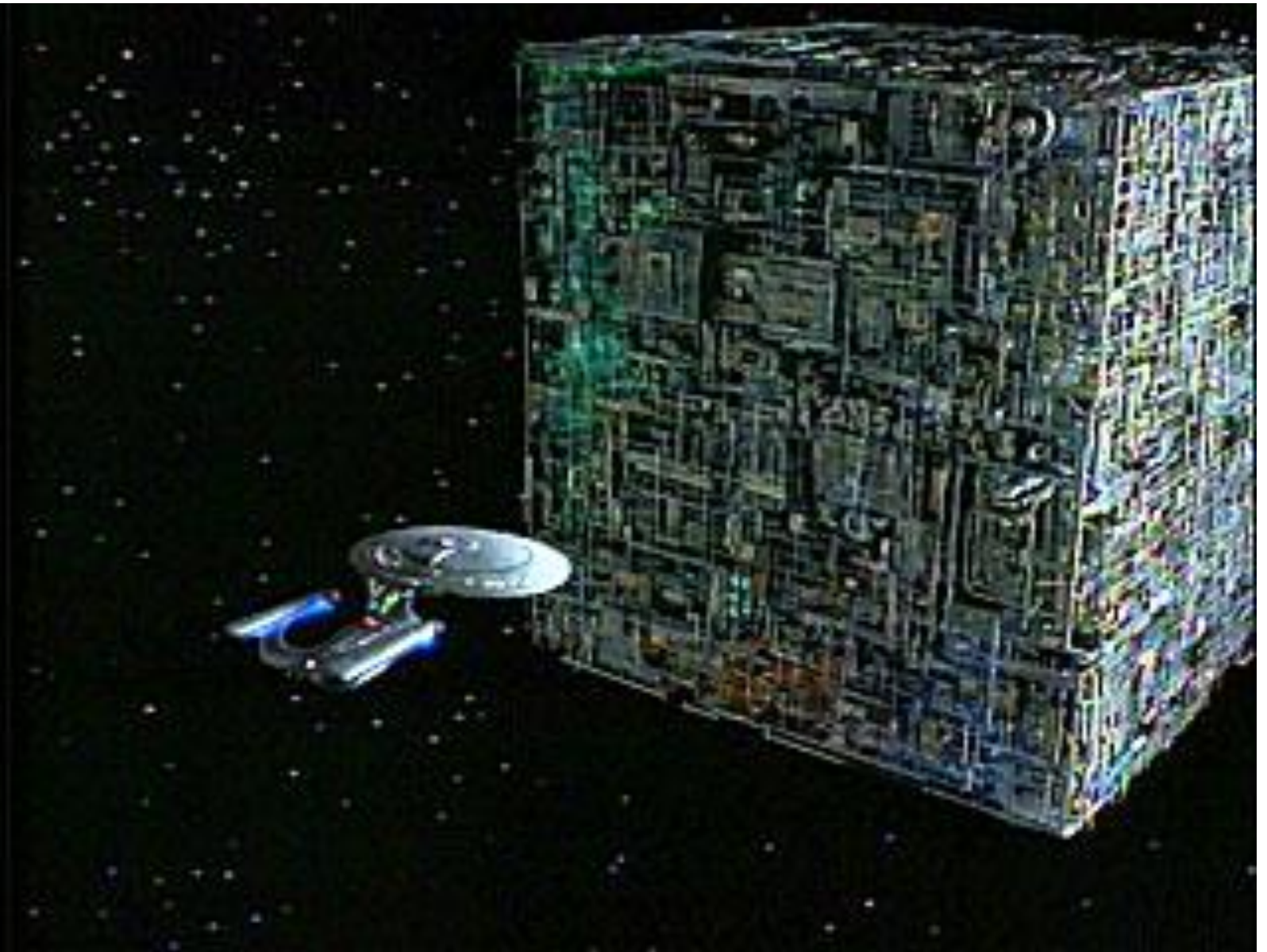
2. If there are 7.5 cubic feet in a gallon, how many gallons of water are in the basement?



#15

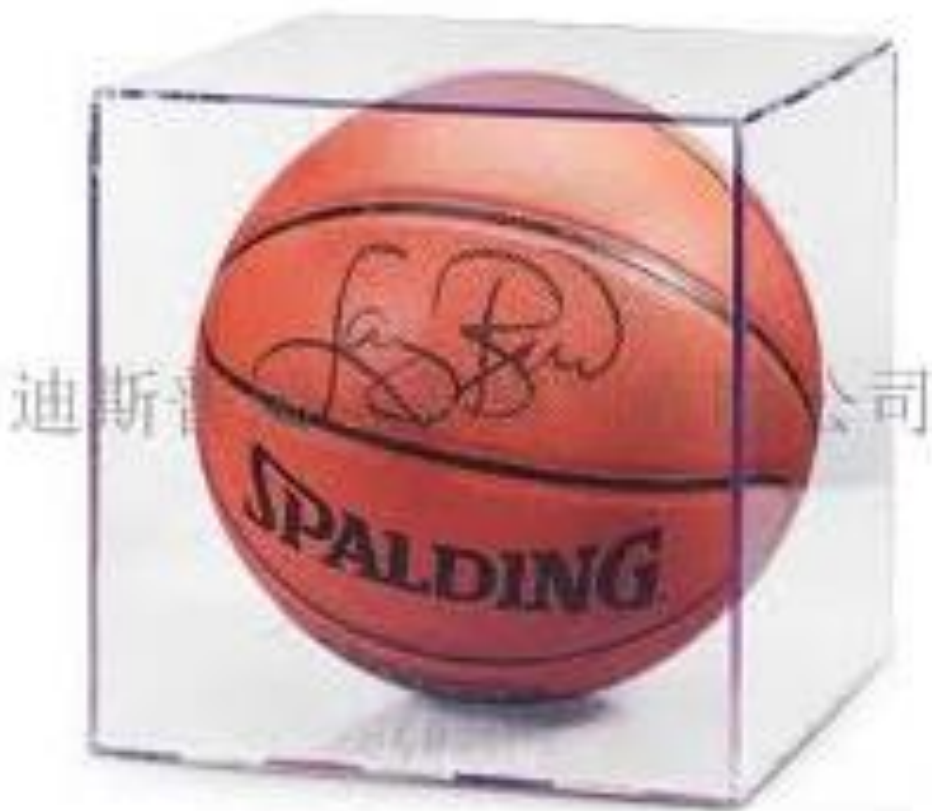
A cube has a volume of $42,875\text{m}^3$.

What is the surface area of this cube?



#16

How much material (surface area) is the smallest cube that can hold a regulation basketball? (a regulation basketball has a 4.7 inch radius)



#17

This is a watertower. The radius of the hemisphere, and cylinder and cone is 12ft. If the cylinder is 20 ft high, and the cone is 10 ft high, how much (cubic ft) of water fits in this water tower?

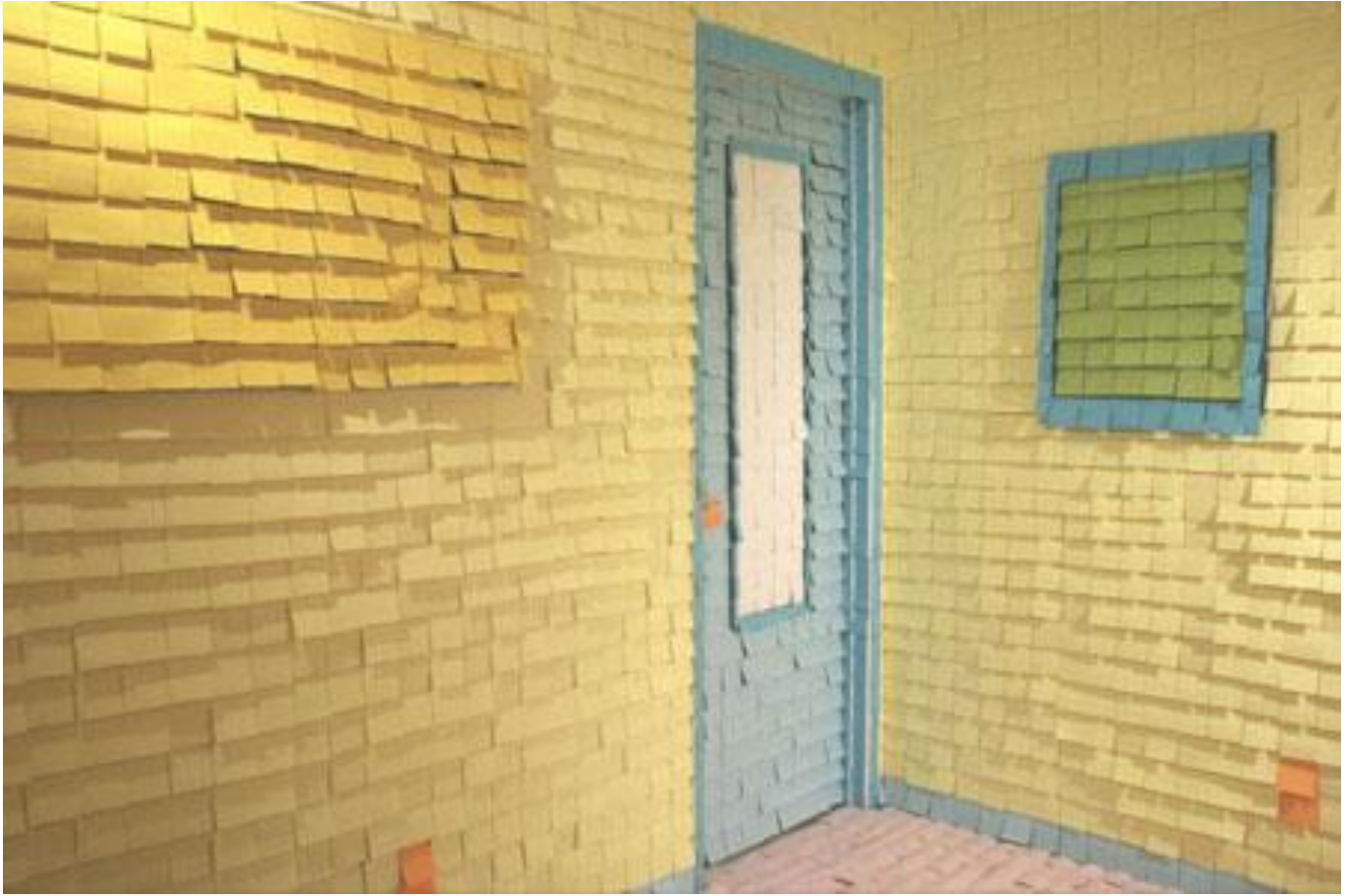


#18

Each ball of playdough shown has a 1 inch radius. If they are all smoooooshed together to make a combined sphere, what would the radius be?



#19 As a prank, Jocelyn's friends covered her room in post-it notes.



Her room is 10ft wide, 11ft long and 8ft high. 4 walls, the ceiling and floor were all covered in 2in square post-its. How many post-it notes were needed to cover her room?

#20

Archimedes was an ancient Greek smart-guy who was asked by his king to figure out if a gold statue was really made out of gold (or if someone was cheating him). Archimedes solution involved measuring the volume of the crown, but because of it's odd shape, it was impossible to measure.

Sitting in a bathtub one day, he realized he could sink the statue in the tub and measure how much the water rose, then calculate the volume. Excited about his solution, he jumped out of the tub yelling "Eureka!" (Greek for "I have it!"), and running through the streets of Syracuse naked.

If Archimedes tub was 70 inches long, and 30 inches wide, and the water raised 2.5 inches when he was fully submerged, then what is Archimedes volume in cubic inches?





[illegible]