Set 2 - Geometry, Bakery:

(no calculator)

1. The bakery is selling right triangular-shaped cookies with heights and lengths of 3 inches. What percentage of the total area of a rectangular tray with dimensions of 12 inches by 9 inches would 6 cookies take up?
    a. 25%
2. All five employees on the morning shift are wearing the same-sized cone-shaped hats for a holiday. If each hat has a radius of 4 inches and a height of 12 inches, what volume of cotton is needed to fill all five hats?
    a. 1280pi
3. The bakery is adding hexagonal seating, and Lila wants the top of the seats, which are hexagonal prisms, filled with resin. If the perimeter of the hexagonal seats is 30 inches, what is the volume of resin needed to fill in the top of the seats if the top of the seats has a height of 2 inches?
    a. $75\sqrt{3}$ cubic inches
4. A rectangular box has dimensions of 3 inches by 4 inches by 2 inches. What is the hypotenuse of a flat triangle that will fit in a box, and its hypotenuse will fit along the longest diagonal inside the box?
    a. $\sqrt{29}$ inches
5. A huge spherical bowl is being filled halfway with sprinkles. If the radius of the spherical bowl is 3 inches, what volume of the bowl is gonna be filled with sprinkles if it is filled halfway?
    a. 18pi cubic inches

(no calculator allowed)

6. A cylindrical tube is being filled with frosting, and a wrapper will wrap halfway around it (excluding the circular bases). If the height of the cylinder is 5 inches and the radius of the cylinder is 3 inches, what is the area of the rectangular wrapper that wraps halfway around the cylindrical tube?
7. An equilateral triangular table with a perimeter of 75 inches is being split in half from one corner all the way to one edge of the table. If one half of the table will be covered in cupcakes stored in cubic boxes with a volume of 64 cubic inches, how many whole cupcake boxes can be placed on the surface of the table?
    a. 8 whole boxes
8. Lila is designing a cake that will be composed of several shapes. The base will be made with a circular cake with a diameter of 9 inches and a height of 5 inches. A cake ring will be added on top, in the shape of a cylinder,r with a height of 3 inches, a diameter of 5 inches, and a hole inside with a diameter of 3 inches. Ignoring the fact that cake batter will rise and using 3.14 for pi, what volume of cake batter will be needed to create two of these cakes?
    a. 357.96 cubic inches of cake batter
9. Lila is cutting a hole into a circular cake that had a diameter of 8 inches and a height of 4 inches. If the hole has a depth halfway through the cake and the diameter of the hole is half of that of the cake, if about 14.4 cubic inches are in a cup, using 3.14 for pi, and to

the nearest tenth, how many cups of strawberry filling are needed to fill the whole of the cake?

a. 1.7 cups of strawberry filling

10. Viktor is cutting into the cookie dough to make Pac-Man cookies out of cookies that have a diameter of 4 inches. If he cuts out a slice that creates a gap with a 45-degree angle in the cookie, what is now the area of the circular shape of the cookie to the nearest whole number?
    a. 11 square inches