***MFM 2P – Dead Space Follow-up Questions*** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| 1. A box has dimensions 12 cm x 12 cm x 10 cm. What is its volume? | 2. A cylindrical box has a radius of 5 cm and a height of 10 cm. What is its volume? |
| 3. A ball has radius 1.4 cm. What is its volume? | 4. A ball has radius 0.9 cm. What is its volume? |
| 5. A small object that is cylinder shaped has a radius of 1.5 cm and a height of 2 cm. What is its volume? | 6. A small cube has dimensions 1.2 cm x 1.2 cm x 1.2 cm. What is its volume? |
| 7. 60 of the objects from question #5 fit in the box from question #1. a) How much dead space is there? b) What percent is dead space? | 8. 180 of the balls from question #4 fit in the cylinder from question #2. a) How much dead space is there? b) What percent is dead space? |
| 9. When a box with a volume of 800 cm3 is filled with cubes with a volume of 10 cm3 each, there is 25% dead space. How many cubes were in the box? | 10. When a box with a volume of 900 cm3 is filled with cubes with length, width and height of 2 cm, there is 33% dead space. How many cubes are in the box? |
| 11. When a box with a volume of 1200 cm3 is filled with balls with a volume of 15 cm3 each, there is 20% dead space. How many balls were in the box? | 12. When a box with a volume of 1052 cm3 is filled with balls with a radius of 2.2 cm, there is 28% dead space. How many balls are in the box? |
| 13. When a box with volume 900 cm3 is filled to the top with 60 cubes, there is 32% dead space. What is the volume of each cube, and what are its length, width and height? | 14. When a box with volume 700 cm3 is filled to the top with 30 balls, there is 43% dead space. What is the radius of each ball? |
| 15. When a box with dimension 13 cm x 15 cm x 15 cm is filled with a certain type of ball, there is 28% dead space. When I remove 3 of the balls, there is now 35% dead space. What is the radius of each ball? | |