E# Volume & Surface Area: CLASSWORK

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| 8.7 The student will investigate and solve practical problems involving volume and surface area of prisms, cylinders, cones, and pyramids. |

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_ Block\_\_\_\_\_\_\_\_

Find the Surface Area and Volume for each figure…

1. Surface Area =\_\_\_\_\_\_\_ Volume = \_\_\_\_\_\_\_

7in

21 in

1. Surface Area =\_\_\_\_\_\_\_ Volume =\_\_\_\_\_\_\_

9ft

6ft

18 ft

1. Surface Area =\_\_\_\_\_\_\_ Volume =\_\_\_\_\_\_\_

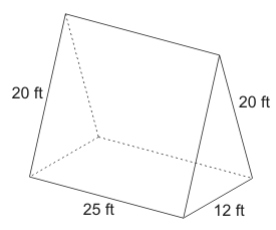
22ft 33ft

44 ft

1. Surface Area =\_\_\_\_\_\_\_ Volume =\_\_\_\_\_\_\_

12cm 14cm

11cm



Surface Area =\_\_\_\_\_\_\_ Volume =\_\_\_\_\_\_\_



E# Volume & Surface Area: Word Problems

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| 8.7 The student will investigate and solve practical problems involving volume and surface area of rectangular solids (prisms), cylinder, cones, and pyramids. |

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_ Block\_\_\_\_\_\_\_\_

1. What is the volume of a square-based pyramid with base side lengths of 16 meters, a slant height of 17 meters, and a height of 15 meters?
2. Thelma and David built a recycling bin that is 6 feet wide, 12 feet long, and 14 feet high. How much trash can fit inside of the bin?
3. The cylindrical canister of a fire extinguisher has a radius of 4 inches and is 12 inches high. How many cubic inches can it hold?
4. A soup can has a diameter of 8 cm and a height of 10.5 cm. How much metal is needed to make the can?
5. Josh is wrapping a box that is 5 feet long 14 feet wide and 3 feet tall with wrapping paper. How much wrapping paper will he need to cover the box?
6. For a project, Kenneth has to cover all sides of a square based pyramid with cloth (excluding the base). The pyramid has the dimensions shown below. How much cloth will Kenneth need to cover the sides of the pyramid?

15 in 12in

11in

1. A cylindrical chemical tank is 12 feet high and has a diameter of 45 feet. How many cubic feet of liquid could the tank hold?
2. A round swimming pool has a diameter of 15 feet and is 6 feet tall. How much water will the pool hold?
3. Cindy went to Maggie Moo’s for an ice cream cone after school. The ice cream cone had a radius of 1 inch, a height of 2 ½ inches, and a slant length of 3 ½ inches, how much ice cream could the cone hold?
4. Brian is building a sand box that is 6 feet wide, 3 feet long, and 15 inches high. How many cubic feet of sand with the box hold?
5. Jake found an old toy pyramid while he was cleaning out his closet. To help him finish cleaning out his closet, he placed all his old toys in the pyramid. If the pyramid had a height of 12 inches, a slant length of 15 inches, and a side base of 10 inches, how much could the pyramid hold?
6. Adam is building a rectangular planter without a top. The planter will be 7 inches wide, 16 inches long, and 10 inches high. How much wood is needed to make the bottom and sides of the planter?