

Surface Area and Volume-Mixed Word Problems

Directions:

- Determine whether the problem requires you to find the surface area or the volume. Write SA or V on the line next to each problem.
 - On a separate sheet of paper, write the formula you would use to solve the problem.
 - Solve and you may use a calculator. Put a box around your final answer and don't forget to write the units!!
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A _____ 1) Elena wants to paint her jewelry box blue. The jewelry box is in the shape of a cube and has an edge length of 4 in. How much blue paint will Elena need?

A,B _____ 2) Richie builds a pool in his backyard. The pool measures 55 feet long, 28 feet wide, and 9 feet deep. How much water will fit in the pool?

A,B _____ 3) How many square feet of cardboard does Jessica need to make a rectangular prism with length of 16 inches, width of 9 inches, and a height of 4 inches?

A,B _____ 4) How much gift wrap is needed to cover a box which measures 3 feet by 2 feet by 3 feet?

A,B,C _____ 5) A package shaped like a cube has an edge that is 28 cm long. How much space is available to pack inside the box?

B,C _____ 6) Kris needs to paint the top and sides of a rectangular prism. The prism has a length of 25 mm, a width of 15 mm, and a height of 9 mm. How much paint does she need to cover the top and sides?

B,C,Acc _____ 7) A tent is in the shape of a triangular prism. The triangles on each end of the prism have a base length of 3 meters, and a height of 4 meters. The height of the triangular prism is 8 meters. What is the ~~surface area~~ volume of the tent?

ACC

8) A food tray in the cafeteria is in the shape of a trapezoidal prism. The trapezoid has bases that measure 12 cm and 18 cm, and a height of 4.5 cm. The height of the trapezoidal prism is 20 cm. What is the total surface area of the food tray? (the legs of the trapezoid are 5.5 cm)

C, ACC

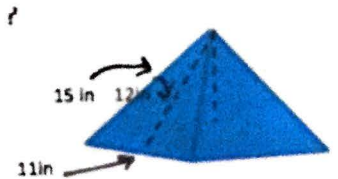
9) If the length of the sides of a cube are doubled, what is the effect on the surface area of the cube?

C, ACC

10) 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?

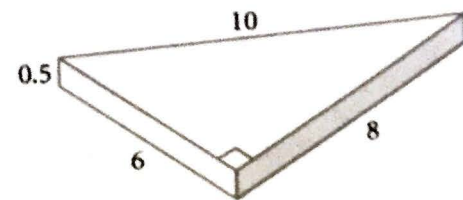
C, ACC

11) For a project, Ken has to cover all sides of a square pyramid with cloth (excluding the base). The pyramid has the dimensions as shown below. How much cloth will Ken need to cover the sides of the pyramid?



ACC

12) You are producing 500 of these metal wedges, and you must electroplate them with a thin layer of high-conducting silver (cover them). The measurements shown are in cms. Find the total cost for the silver, if silver plating costs \$3 for every 200 square cms. Assume each quadrilateral is a rectangle.



ACC

13) The excavation for a house and the trucks to carry away the material have dimensions shown below. About how many level truck loads are necessary to remove all the dirt?

