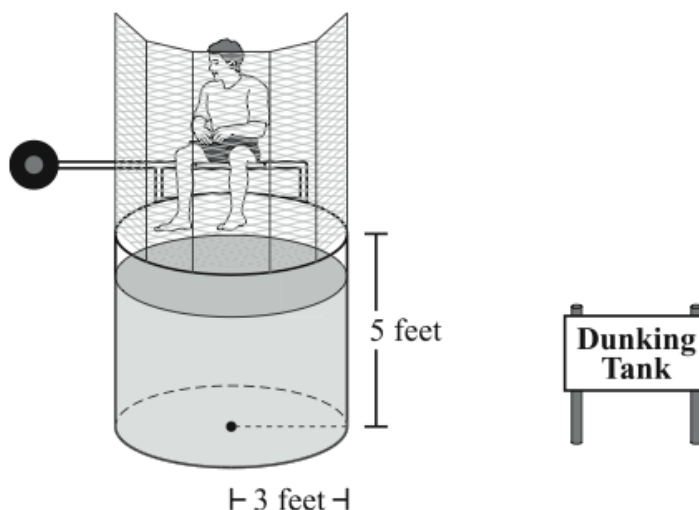


(2008 MCAS) Type your solution in the blank google doc provided you.

1. A water dunking tank at a carnival is in the shape of a right circular cylinder. Its height is 5 feet and the radius of each base is 3 feet, as shown in the picture below.



- a. What is the lateral surface area, in square feet, of the tank? Show your work.
- b. On the first day of the carnival, the dunking tank was filled with water to a height of 4 feet. What was the volume, in cubic feet, of the water in the tank on the first day of the carnival? Show your work.

At the end of the second day of the carnival, some water was drained from the tank. The volume of water drained was 35.3 cubic feet.

- c. Using your answer from part (b), determine the height, in feet, of the water remaining in the tank after the water was drained at the end of the second day. Show your work.

The water that was drained from the tank was poured into containers, each in the shape of a right rectangular prism. Each container was 2 feet in length, 1.5 feet in width, and 3 feet in height.

- d. What was the least number of containers needed to hold all the water that was drained at the end of the second day? Show your work.

Scoring Rubric

Score	Description
A	Your answer shows excellent understanding of the ideas involved to solve the problem. You correctly determine the given and needed information, identify and use the correct formulas/equations, and accurately answer the question(s) addressed.
P	Your answer shows a good understanding of the ideas involved to solve the problem. Although there is significant evidence that you can recognize and apply the concepts, some areas of the response are incorrect.
N	Your answer provides mixed evidence as to your understanding of the ideas involved in solving the problem. While some areas of the task are correct, others are not.
W	Your answer shows a minimal understanding of the ideas involved to solve the problem.
0	Your answer contains little or no evidence of any understanding of the ideas involved to merit any points.

A = Advanced 90-100%, P = Proficient 80-89%, N = Needs Improvement 70-79% W = Warning 50-69% or Zero.

Here are some comments to watch out for, which, if overlooked are likely to end up in points deductions.

1. **Incorrect response.** Each incorrect part may result in a point deduction.
2. **Incorrect format.** A point will be deducted for not following instructions by messing up the format. For instance, your answers are to be in **blue**; my response is in **red**. When doing a revision, you must rewrite the entire response, and I will rescore it as if it were the first time seeing it. The revision is to be placed ahead of any previous response. The responses are on a page separate from the question page.
3. **Poor or missing explanation.** The point of open response is the written explanation. Correct work and answer, but no explanation will cost you 1-2 points. If the question says, "Show OR explain," it means "Show AND Explain." If you are not asked to explain, you must explain. If you leave off the explanation of HOW you got your answer (WHY you did WHAT you did), you miss the main reason for doing these exercises. Explaining your work is literacy in mathematics. It is the beginning of learning how to prove something logically.