

Name \_\_\_\_\_

Date \_\_\_\_\_

### Open-ended Task: Geometry Chapter 12

**Directions:**

To receive full credit you must do the following:

1. Show OR describe each step of your work, even if you did it in your head (“mental math”) or used a calculator,  
AND
2. Write an explanation stating the mathematical reason(s) why you chose each of your steps.

**Question:** A stainless steel tank is 8 feet tall with a 12-foot diameter.

A. Find the surface area of the tank.

B. Find the volume of the tank.

C. How long will it take to drain  $\frac{7}{8}$  of a tank at a rate of 3.5 cubic feet per minute?

D. If carbonated water and corn syrup are mixed at a rate of 5:2 ratio, how much of each do you need to fill the tank?