

Challenge Problem #37

Challenge problems are worth 30 points each. 6 points will be earned for the correct answer. This includes using **appropriate units**. 12 points will be earned by **showing the mathematical process** used in getting the answer. **A diagram is required for this problem**. The last 12 points will be earned by **writing a complete explanation** of the reasoning used to solve the problem. Good luck.

A rectangular water tank is 6 feet long, 4 feet wide, and 3 feet deep. The tank is empty initially but water is added at a constant rate of 2 cubic feet per minute. Answer the following questions.

1. How long will it take to fill the tank?
2. How deep is the water in the tank after 6 minutes?