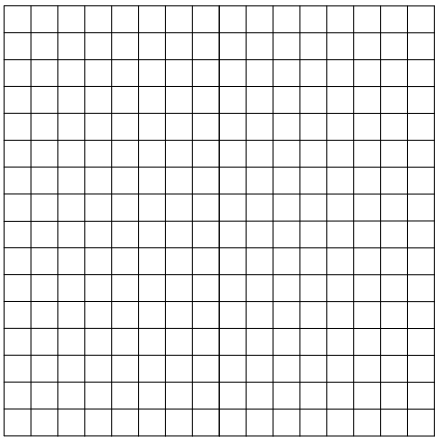
Algebra I Class Worksheet #5 Unit 8 page 1 _____

A rectangular water tank is 12 feet long, 6 feet wide, and 5 feet deep. The tank is empty initially and water is pumped into the tank at 9 cubic feet per minute until the tank is full. Let t represent the time that water has been pumped into the tank (in **minutes**). Let f(t) represent the **depth of the water** in the tank (in **inches**). Answer each of the following. Show your process neatly organized.

1. How long will it take to fill the tank? _____

2. Make a table giving t and f(t) every 4 minutes from t = 0 until the tank is full.

3. Graph function f.



4. Write an equation giving f(t) in terms of t. _____

5. Write an inequality to describe the domain of function f. _____

6. Write an inequality to describe the range of function f. _____

7. Evaluate f(20). What does f(20) represent in terms of the problem?

8. If f(t) = 20, then find the value of t. Describe what this value of t represents in terms of the problem.

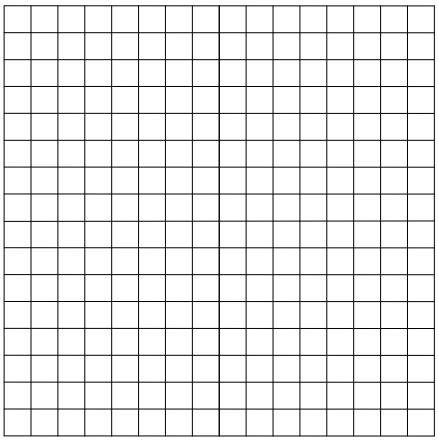
Algebra I Class Worksheet #5 Unit 8 page 2

A rectangular water tank is 6 feet long, 4 feet wide, and 5 feet deep. The tank is full initially and water is drained out of the tank at 8 cubic feet per minute until the tank is empty.
Let t represent the time that water has been draining out of the tank (in **minutes**). Let F(t) represent the **depth of the water** in the tank (in **inches**). Answer each of the following. Show your process neatly organized.

9. How long will it take to empty the tank? _____

10. Make a table giving t and F(t) every 3 minutes from t = 0 until the tank is empty.

11. Graph function F.



12. Write an equation giving F(t) in terms of t. _____

13. Write an inequality to describe the domain of function F. _____

14. Write an inequality to describe the range of function F. _____

15. Evaluate F(9). What does F(9) represent in terms of the problem?

16. If F(t) = 20, then find the value of t. Describe what this value of t represents in terms of the problem.