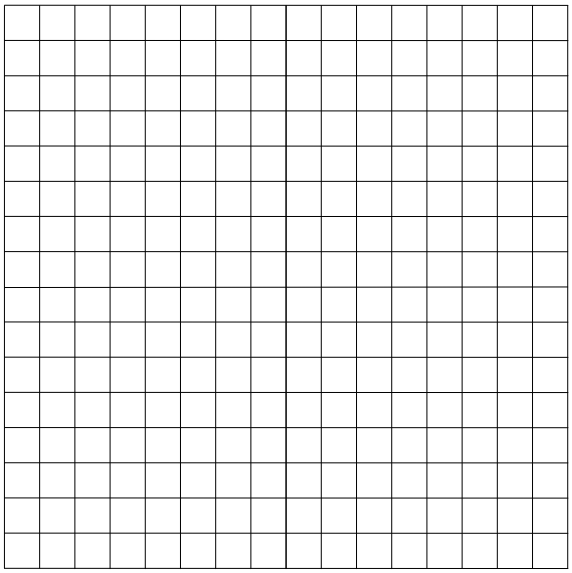
Algebra I Worksheet #10 Unit 8 page 1 _____

A rectangular water tank is 8 feet long, 3 feet wide, and feet deep. The tank is empty initially and water is pumped into the tank at 4 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 6 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(10). What does f(10) represent in terms of the problem?

8. If f(t) = 25, then find the value of t. Describe what this value of t represents in terms of the problem.

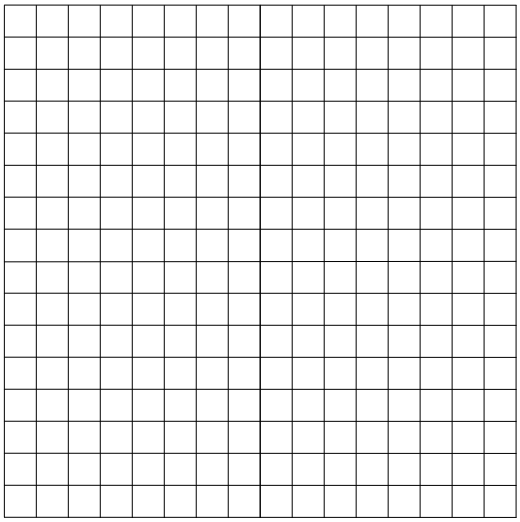
Algebra I Worksheet #10 Unit 8 page 2

A rectangular water tank is 8 feet long, 5 feet wide, and 6 feet deep. The tank is **full** initially and water is drained out of the tank at a constant rate of 10 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 4 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(5). What does f(5) represent in terms of the problem?

16. If f(t) = 15, then find the value of t. Describe what this value of t represents in terms of the problem.

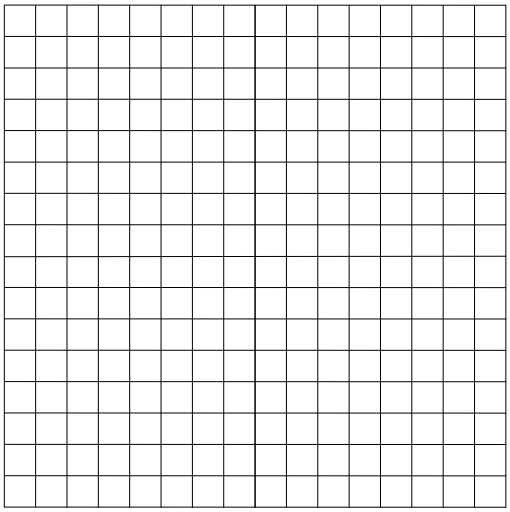
Algebra I Worksheet #10 Unit 8 page 3

A rectangular water tank is 8 feet long, 6 feet wide, and 4 feet deep. The tank is **half-full** initially and water is pumped into the tank at 6 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.

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

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

19. Graph function f.



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

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

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

23. Evaluate f(6). What does f(6) represent in terms of the problem?

24. If f(t) = 39, then find the value of t. Describe what this value of t represents in terms of the problem.