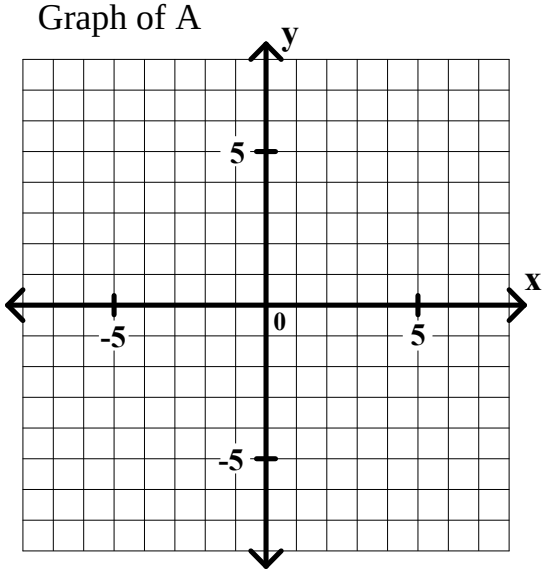
**Algebra II Review Unit 3 page 1** _____

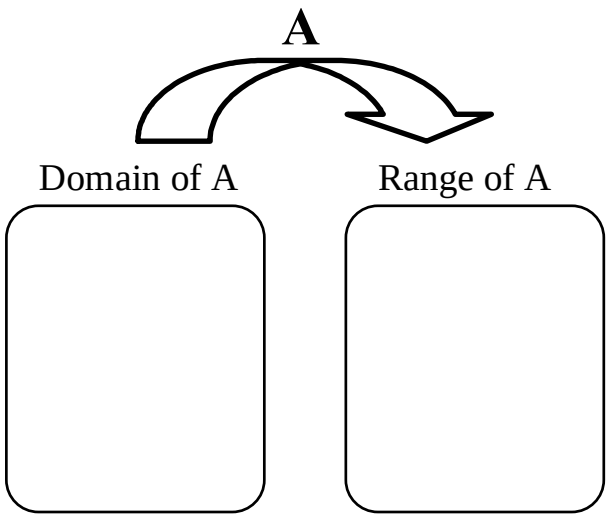
1. Given relation A = { ( -3 , 4 ) , ( -1 , 4 ) , ( 0 , 5 ) , ( 2 , -1 ) }
   (a) graph the relation and
   (b) complete the mapping diagram for the relation.

(a)

Graph of A



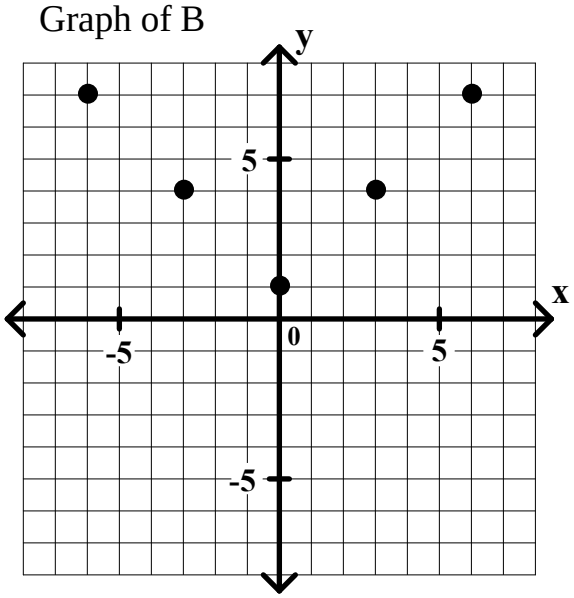

(b)



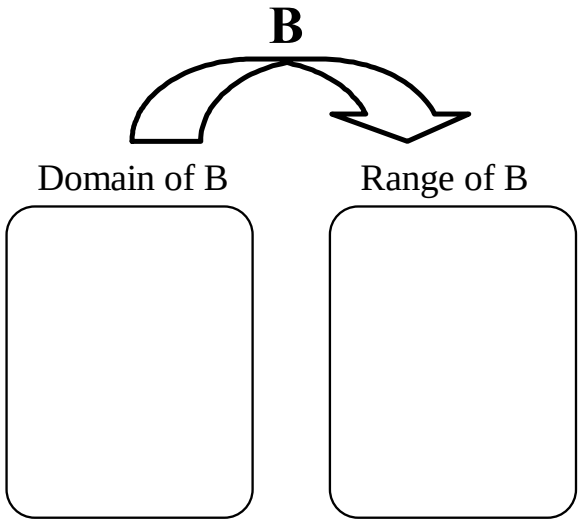

2. Given relation B graphed below.
   (a) describe the relation using the listing method and
   (b) complete the mapping diagram for the relation.

(a) B = _____

Graph of B



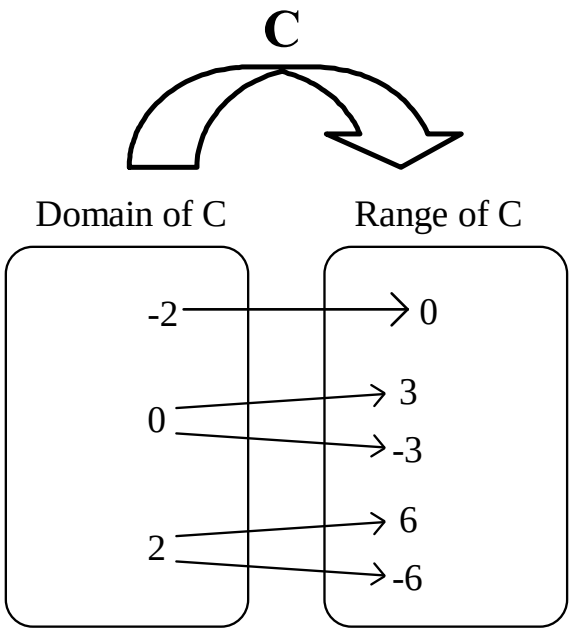

(b)



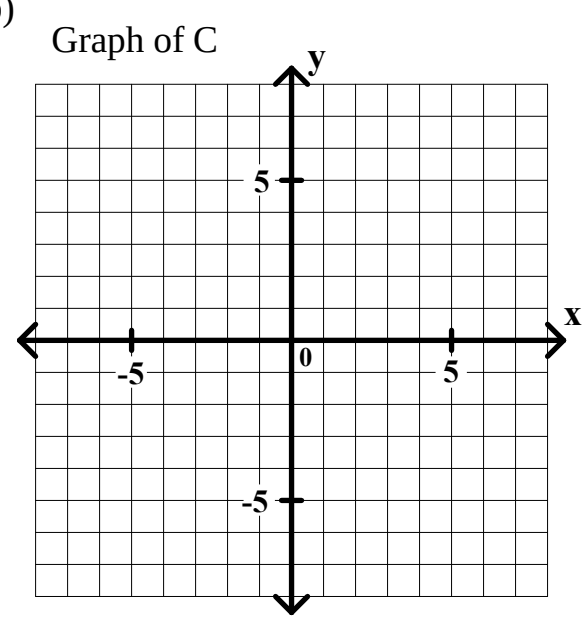
# Algebra II Review Unit 3 page 2

3. Given relaton C defined using a mapping diagram below.
   (a) describe the relation using the listing method and
   (b) graph the relation.

(a) C = _____



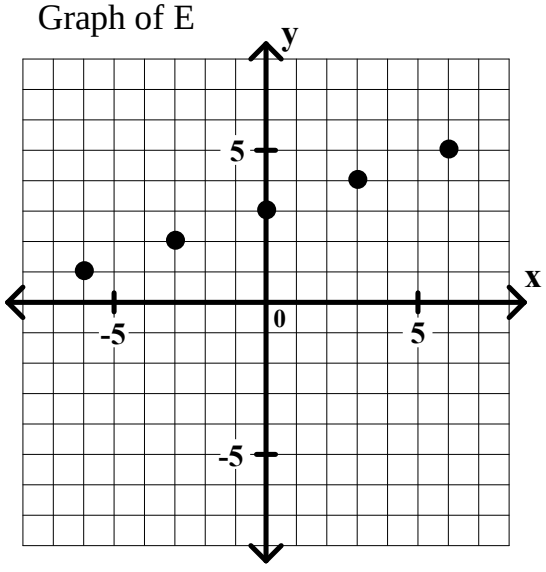

(b)



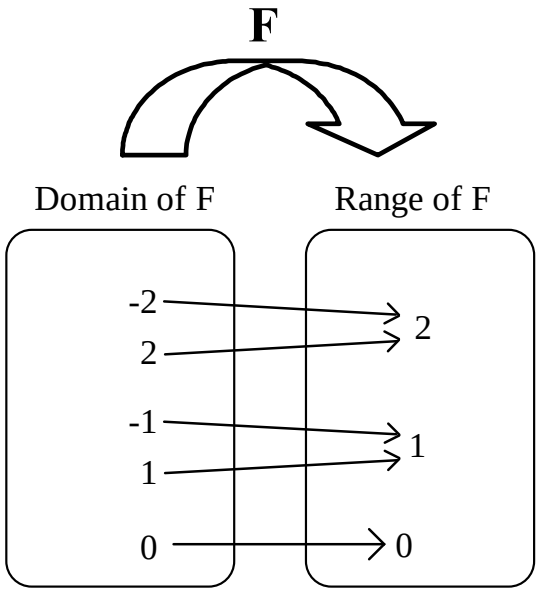

Determine whether or not the relation given in each problem is a function. (Write yes or no.)

_____ 4. D = { ( 1 , -3 ) , ( 2 , -3 ) , ( 3 , 3 ) , ( 4, 3 ) }

_____ 5. relation E




_____ 6. relation F



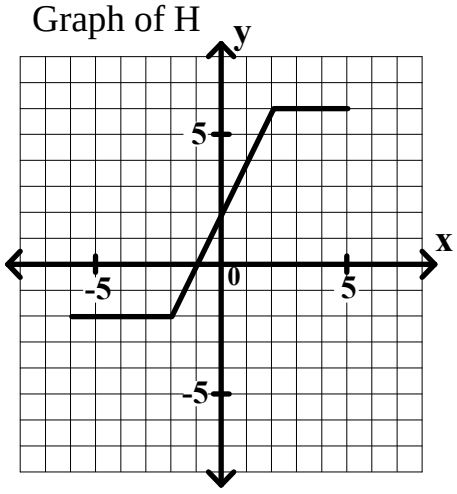
# Algebra II Review Unit 3 page 3

Given: Function G = { (x,y) : **y = 2x – 3** } . Evaluate each of the following.

7. G(3) = _____ 8. G(0) = _____ 9. G(-4) = _____

Given the function H defined by this graph.

Graph of H




10. What is the domain of H? _____

11. What is the range of H? _____

Evaluate each of the following.

12. H(3) = _____

13. H(0) = _____

14. H(-4) = _____

Bill walks for **30 seconds** at a constant speed of **5 feet per second**. Let t represent his walking time (in **seconds)** and d(t) represent the distance he has walked (in **feet)**. Answer each of the following.

15. Write an equation giving d(t) in terms of t. _____

16. What is the domain of function d?

_____

17. What is the range of function d?

_____

18. Evaluate d(8). What does d(8) represent in terms of the problem?

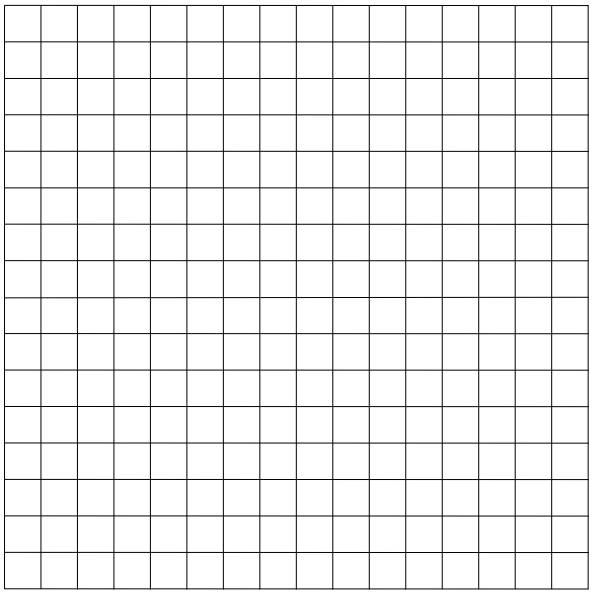
19. If d(t) = 80, then find the value of t. Describe what this value of t represents in terms of the problem.

# Algebra II Review Unit 3 page 4

Larry has a part-time job. He can work up to 24 hours a week. He gets paid $6.00 per hour. Let t represent the number of hours he works. Let P(t) represent his total pay.

6. Make a table giving t and P(t) every 4 hours from t = 0 to t = 24.

7. Graph function P.



8. Write an equation giving P(t) in terms of t. _____

9. Evaluate P(12). What does P(12) represent in terms of the problem?

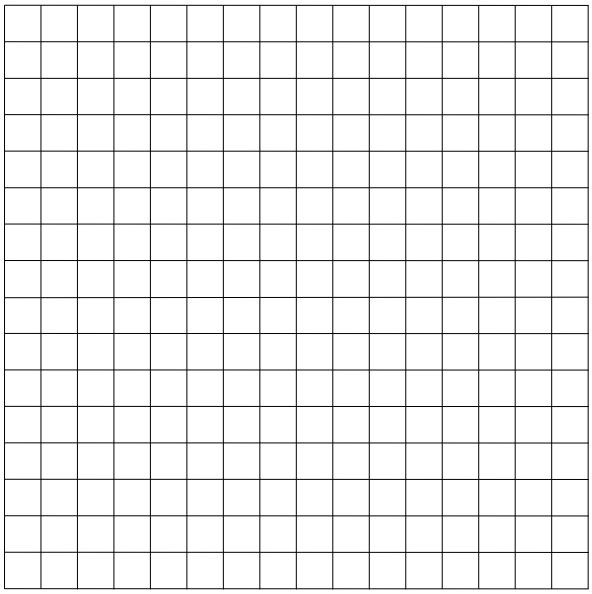
10. If P(t) = 12, then find the value of t. Describe what this value of t represents in terms of the problem.

# Algebra II Review Unit 3 page 5

Penguin Island is 30 miles due west of Port City. A Ferry sails from Port City to Penguin Island at a constant speed of 12 miles per hour. Let t represent the time in **hours** that the Ferry has been sailing. Let D(t) represent the **distance in miles that the Ferry is from Penguin Island**.

11. Make a table giving t and D(t) every half hour from t = 0 until the Ferry reaches Penguin Island.

12. Graph function D.



13. Write an equation giving D(t) in terms of t. _____

14. Evaluate D(1.25). What does D(1.25) represent in terms of the problem?

15. If D(t) = 6, then find the value of t. Describe what this value of t represents in terms of the problem.

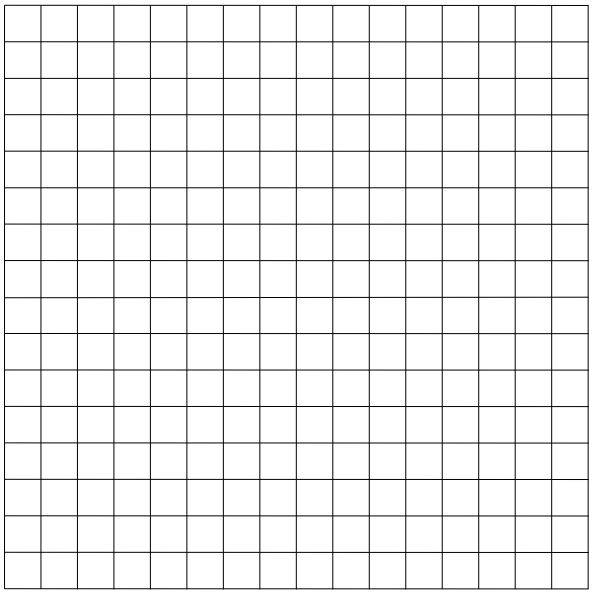
# Algebra II Review Unit 3 page 6

A rectangular water tank is 8 feet long, 6 feet wide, and 5 feet deep. The tank is half-full initially and water is pumped into the tank at 10 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.

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

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

22. Graph function f.



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

24. What is the domain of function f?

_____

25. What is the range of function f?

_____

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

27. If f(t) = 55, then find the value of t. Describe what this value of t represents in terms of the problem.