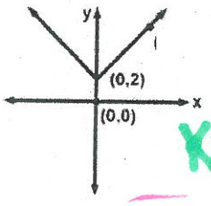
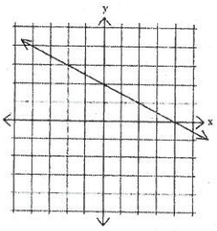
7.5-6 RWS

Mathematician: Key

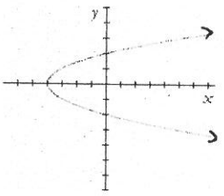
#1-3, Given the information determine whether or not the relationship is a function. Yes or no?

1. 

YES

2. 

YES

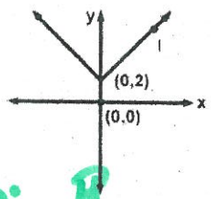
3. 

NO

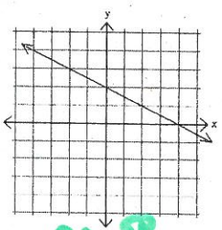
4. Give a list of 5 coordinates that *would not* qualify as a function.

(3,1), (3,2), (3,3) Same x's with different y's

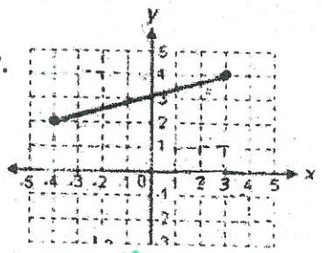
#5-8, Determine the domain and range of each relationship.

5. 

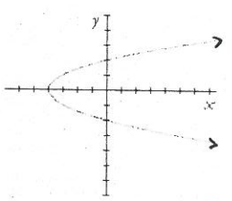
D: ℝ
R: $2 \le y$

6. 

D: ℝ
R: ℝ

7. 

D: $-4 \le x \le 3$
R: $2 \le y \le 4$

8. 

D: $x \ge -4$
R: ℝ

#9-12, Use the functions below to evaluate each.

$f(x) = x^2 + 3$ $\quad g(x) = -x + 1$ $\quad h(x) = x^2 + 2x - 3$

9. $f(5)$ 28

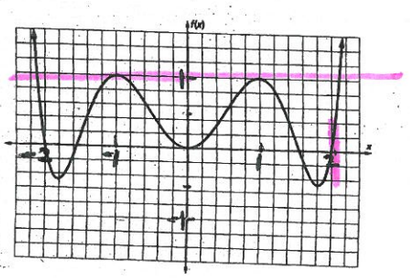
10. $h(-1)$ -4

11. $g(-5)$ 6

12. $f(10)$ 103

13. Use your graphing calculator.
What is the domain and range of the function $f(x) = 3x^2 + 5$ D: ℝ R: $y \ge 5$

14. **Use the graph at right to answer**



a. Give two values of x for which $f(x) = 1$ (y=1) 1, -1, -2.1, 2.1

b. Find $f(2)$ (x=2) 0

15. The south gym is a steady 68ºF (room temp). Hawk fans begin entering the gym for a pep assembly and steadily heat the space. When the assembly ends, 45 minutes later, the gym is 77º. The gym slowly cools back to room temperature over the next 2 hours.

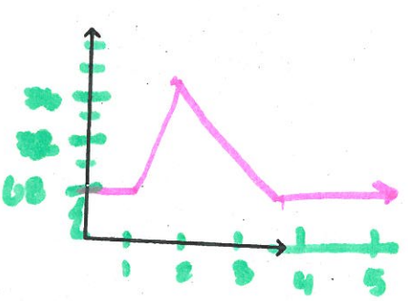
a. Graph this scenario with time on horizontal axis and temperature on vertical. ✓

b. Is the temperature of the gym a function of time? (i.e. could you predict the temperature based on the time) yes

c. Is the time a function of the temperature? (i.e. could you predict the time based on the temperature) no

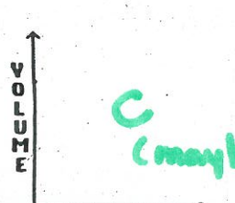
d. What is the range of this graph? $68 \le y \le 77$

Temp

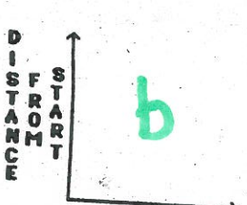


Hours passed

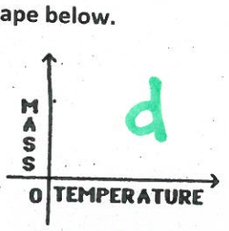
#16-18, Multiple Choice: match the description on axes above to its correct graph shape below.

16. 

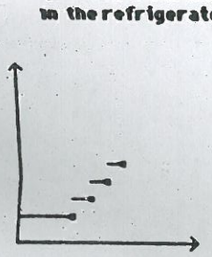
(milk in a carton in the refrigerator)
c (maybe d)

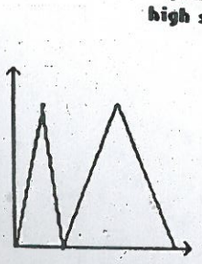
17. 

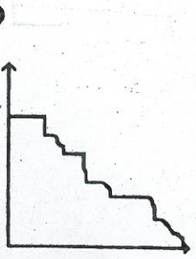
(running on a high school track)
b

18. 

(amount of clothes worn on a given day)
d

a. 

b. 

c. 

d.