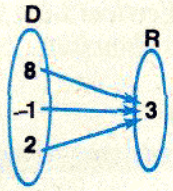
**Copy the problems, except for the graphs, and show all work on a separate sheet of paper.**

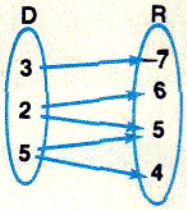
## Exercises Part A:

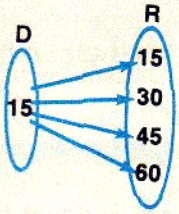
**State the domain and range of each relation. Then state if the relation is a function.**

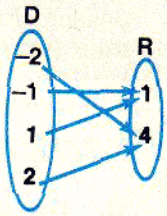
1. {(4, 4), (1, 1), (3, 3)}
2. {(6, 4)}
3. {(4, 3), (8, -2), (-17, 4), (-17, 8)}
4. {(1, 5), (5, 1)}
5. {( -3, -3), (-2, -2), (2, 2), (4, 4)}
6. {(-3, 3), (-2, 2), (2, -2), (4, -4)}
7. {(5, -3), (-3, 5)}
8. {( -3, 3), (-2, 3), (2, 3), (4, 3)}

**State the relation shown by each of the following mappings. Then state if the relation is a function.**

9. 

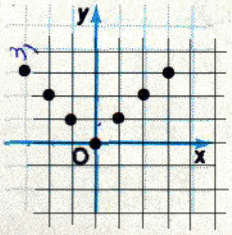

10. 

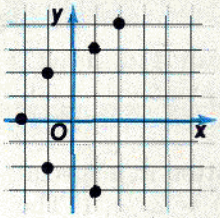

11. 

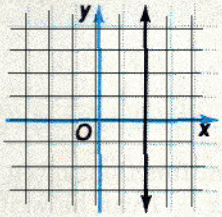

12. 

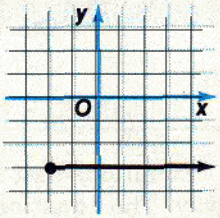

## Exercises Part B:

**State a relation shown by the graph. Then state the domain and range of the relation.**

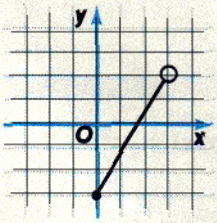
1. 

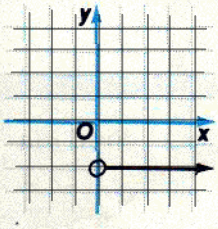

2. 

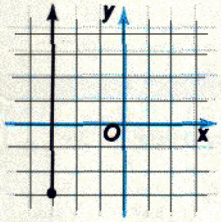

3. 

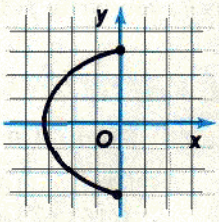

4. 

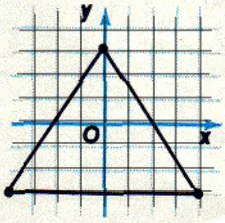

**Use the vertical line test to determine if each relation is a function. Write *yes* or *no*.**

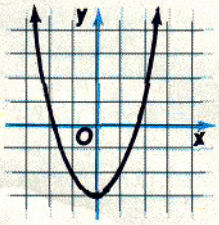
5. 

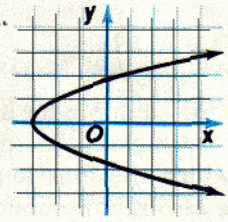

6. 

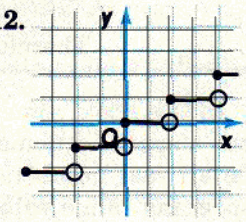

7. 


8. 


9. 


10. 


11. 


12. 

**Given f(x) = $\frac{7}{x-2}$ , find each value**

13. f(12) 14. f(3) 15. f(-1) 16. f(5.5) 17. f(0) 18. f(1.3)

19. f($\frac{1}{2}$) 20. f ($\frac{2}{3}$) 21. f(a) 22. f(u + 2) 23. f(3a) 24. f(2)

**Given g(x) =** $4x^3 + 2x^2 + x - 7$ **, find each value.**

25. g(1) 26. g(-4) 27. g($-\frac{1}{2}$) 28. g($\frac{1}{2}$) 29. g(t) 30. g(2s)

**Given h(x) =** $\frac{x^2 + 5x - 6}{x + 3}$ **, find each value.**

31. h(6) 32. h(-4) 33. h($\frac{1}{3}$) 34. h($\frac{1}{2}$) 35. h(a + 1) 36. h(2m + 3)

Algebra Two with Trigonometry, Foster, Rath, Winters. Merrill Publishing Co. 1986. Pages 43 - 47.