Sec. 6.1: pp. 246-247 (#1-5 and #7-22)
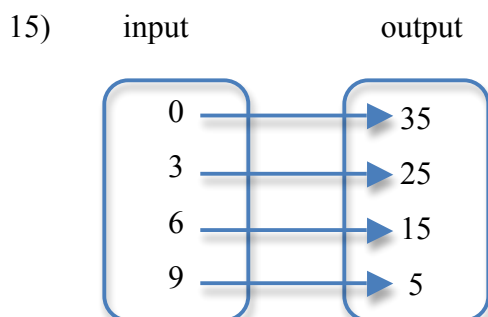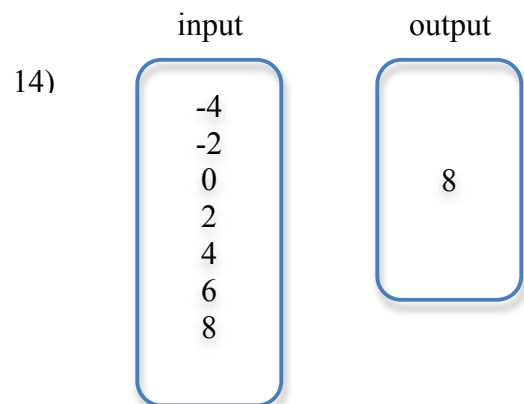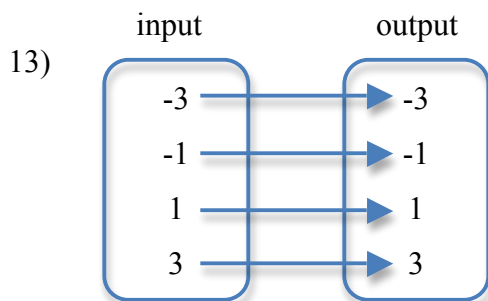
1) the first number ; the second number

2) A relation pairs input values with at least one output value. A function pairs input values with exactly
one output value.

3) As the input value increases by 1, the output value increases by 4.
16 , 20 , 24

4) As the input value increases by 1, the output value increases by 6.
20, 26, 32

5) As the input value increases by 1, the output value increases by 5.
12, 17, 22

7) (1 , 8) , (3 , 8) , (3 , 4) , (5 , 6) (7 , 2)   8) (6 , -5) , (7 , -5) , (8 , -10) , (9 , -10)

9) no   10) yes   11) yes

12) This relation is not a function, because if 4 is the input, there is no single value that is guaranteed to be
the output.

13)

input	output
-3	-3
-1	-1
1	1
3	3

14)

input	output
-4	
-2	
0	8
2	
4	
6	
8	

15)

input	output
0	35
3	25
6	15
9	5

16a) 3 , 4 , 5 , 6 ATM's
b) yes, because every input value has exactly one corresponding outcome value
c) (0 , 1) , (10 , 2) , (20 , 3) , (30 , 4) , (40 , 5) , (50 , 6)
For this graph, you will want to use different scales for each axis. You should count by 1's on the
depth (x) axis and by 5's or 10's on the pressure (y) axis.
d) This will be personal preference.

17a)   # movies   cost
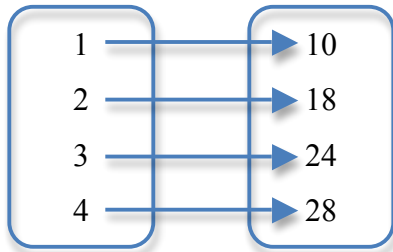
b) The relation is a function, because each number of movies has exactly one possible cost.
c) With each additional movie, the additional cost is $2 less than the previous additional cost. ($8, then $6, then $4.)

18) As the input value increases by 1, the output value increases by 5. However, the function starts at (0 , 25). If it started at (0 , 0), then 200 would have an output of 1,000. Since this function starts at (0 , 25), we need to add 25 to the output, which gives 200 an output of 1,025.

19) *y*-axis   20) *x*-axis   21) *x*-axis   22) A