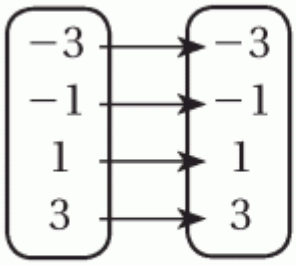
Pg 246-247 #1-14, 16 (skip “e”), 17

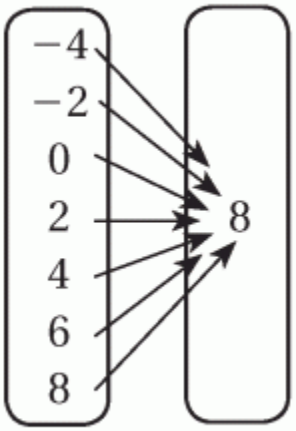
1. the first number; the second number
2. A relation pairs inputs with outputs. A function is a relation that pairs each input with exactly one output.
3. As each input increases by 1, the output increases by 4.
   16; 20; 24
4. As each input increases by 1, the output increases by 6.
   20; 26; 32
5. As each input increases by 1, the output increases by 5.
   12; 17; 22
6. (0, 4), (3, 5), (6, 6), (9, 7)
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. In order for a relation to be a function, each input must be paired with exactly one output. So, the relation is not a function.

13. Input Output



As each input increases by 2, the output increases by 2.

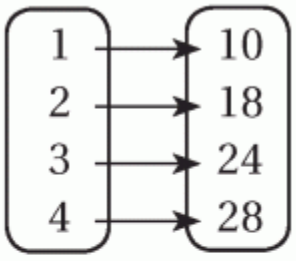
14. Input Output



As each input increases by 2, the output is 8.

16. See *Taking Math Deeper*.

17. a. Input Output



b. yes; Each input has exactly one output.

c. The pattern is that for each input increase of 1, the output increases by $2 less than the previous increase. For each additional movie you buy, your cost per movie decreases by $1.