

5.1 3, 5, 6, 9, 11, 13, 19a, 20b, 24, 25

3. yes

5. yes

6. True. Any number to a power = a real number.

9. a) $2^2 = 4$ $4 - 1 = 3$

b) $2^{-1} = 1$ $1^2 = 1$

c) $x - 1 = (x - 1)^2$

d) $x^2 = x^2 - 1$

e) $y - 1 = (y - 1) - 1$

f) $y^2 = (y^2)^2$

11) a) both

b) neither

13) a) both

b) onto

17) a) $\left(\frac{a+1}{2}\right)^{-1} = 2b-1$

$$\frac{2}{-a-1} = \frac{2b-1}{1}$$

20 b)

24. $\{1, 2, 3, 4\}$ $\{a, b, c, d\}$

$\{(1, a), (2, b), (3, c), (4, d)\}$

yes

25. $\{(1, a), (2, c), (3, b), (4, d)\}$

yes