Chapter 15: Expressions and Properties

Simplify expression.

1. 30 + u + 5 = 55
   u = _____

2. 140 – y + 14 + 12 = 110
   y = _____

3. 15 x 4 + p – 5 + 3 = 78
   p = _____

4. 50 + k – 12 x 2 = 36
   k = _____

5. 210 – r + 20 x 5 = 260
   r = _____

6. 79 x 2 + 10 – 20 – n = 138
   n = _____

7. 184 – 32 x 3 + a – 9 = 83
   a = _____

8. 79 + 30 x 2 – j + 3 = 128

   j = _____

9. 45 – d + 35 x 3 + 9 = 139

   d = _____

10. 29 + 32 x 6 – 14 + b = 210

    b = _____

11. 52 – 38 + 23 x 3 – h = 49

    h = _____

12. 64 – f + 7 x 13 + 43 = 186

    f = _____

13. 89 + 43 – 21 x 4 + w = 60

    w = _____

14. 56 + 32 x 21 – e – 21 = 585

    e = _____

15. 124 – s – 23 x 4 + 52 = 52

    s = _____

Simplify the following expressions by using the distributive property rule.

1. 5 (-6 + 4p)

2. 14y (2y + 4)

3. 19u (3u – 5)

4. 26 – 4 (-5g – 3g)

5. 32 – 12 (-3e - e)

6. 3 (4r – 2) + 5 (7r -4)

7. 21 + 3f (8 – 2f)

8. 12 (5m – 3) – 12 (2m – 1)

9. 34 – 22 (4t – 2)

10. 13 – 5 (4q + 2q)

Chapter 21: Probability

1. On the shelf, there are 20 English books and a few Chinese ones. English books are less likely than Chinese books to be removed from the shelf. How many Chinese books are there on the shelf, at the very least?

2. On the table, there are six white cards and a few black cards. White cards are more likely to be found on the table than black cards. How many black cards are there on the table, at the very least?

3. In the jar, you'll get 27 apple-flavored sweets and 33 strawberry-flavored candy. After Lily places some apple-flavored candy in the jar, the apple-flavored candies can be removed in the same way that strawberry-flavored candies can. Lily put how many apple-flavored candies in the jar?

4. Each jar contains 10 red beans and 10 green beans. Xiaohui predicted the colour first, then took the beans from the container at random. If Xiao Hui got it right, she'd put one red bean in the jar; if she got it wrong, she'd put two green beans in the jar. Xiaohui guessed it correctly once and incorrectly twice. What are the chances of Xiaohui removing the red beans for the fourth time?

5. The bag contains 10 yellow cards and 15 blue cards. Obviously, guess the colour first, and then choose cards from the bag at random. Two blue cards will be taken out of the bag if the guess is correct, and a yellow card will be taken out if the guess is incorrect. Three times I guessed properly and once I guessed incorrectly. What are the chances of removing the yellow card for the fourth time?