

Selecting the cent as the denomination (in order to avoid fractions) we express the statement II in algebraic symbols.

$$50(11 - x) + 10x = 310.$$

Simplifying, $550 - 50x + 10x = 310.$

Transposing, $-50x + 10x = -550 + 310.$

Uniting, $-40x = -240.$

Dividing, $x = 6$, the number of dimes.

$11 - x = 5$, the number of half dollars.

Check. 6 dimes = 60 cents, 5 half dollars = 250 cents, their sum is \$3.10.

EXERCISE 38

1. Two numbers differ by 33, and the greater is four times the smaller. Find the numbers.

2. Find two numbers whose sum is 72 and the greater of which equals five times the smaller.

3. The difference between two numbers is 8, and if 16 be added to the greater, the result will be three times the smaller. Find the numbers.

4. The difference between two numbers is 2, and the difference between their squares is 16. Find the numbers.

5. The sum of two numbers is 47, and their difference is 9. Find the numbers.

6. Divide 20 into two parts, one of which increased by 14 shall be equal to the other increased by 10.

7. One number is 5 less than three times another number. If the second number is subtracted from five times the first number, the result is 25. What are the numbers?

8. Divide 22 into two parts such that one part multiplied by 5 is equal to the other part diminished by 2.

9. Find two consecutive numbers whose sum is equal to 243.