Word Problems
solutions

Exercise 5.

1. Blue, 5 yds.; white, 15 yds.
2. 3.
3. Walked 2 hrs.; rode 8 hrs.
4. Book, $2; lamp, $4.
5. 12.
6. 12 twos; 24 fives.
7. Tea, 67; coffee, 32.
8. Crackers,18 gingersnaps, 25
9. Lamp, $1; vase, $1.50.
10. House, $4500; barn, $3300.
11. 12,000; 13,500 ft.
12. 29 gal.; 24 gal.
13. Johnson, $6000; May, $1500.
14. 27; 10; 42.
15. 3; 17; 51.
16. 3 bbls.; 9 boxes.
17. 18; 90; 180.
18. 84; 132.

Problems from the book:
A First Book in Algebra
Wallace C. Boyd, A.M.
1895

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Word Problems

Introduction to Algebra

Exercise 5

Illustrative Example. Arthur bought some apples and twice as many oranges for 78 cents. The apples cost 3 cents apiece, and the oranges 5 cents apiece. How many of each did he buy?

Solution.

$$\begin{array}{rrcl} \text{Let} & x & = & \text{number of apples,} \\ & 2x & = & \text{number of oranges,} \\ & 3x & = & \text{cost of apples,} \\ & 10x & = & \text{cost of oranges.} \\ & 3x + 10x & = & 78 \\ & 13x & = & 78 \\ & x & = & 6 \\ & 2x & = & 12 \end{array}$$

Arthur bought 6 apples and 12 oranges.

1. Mary bought some blue ribbon at 7 cents a yard, and three times as much white ribbon at 5 cents a yard, paying \$1.10 for the whole. How many yards of each kind did she buy?

2. Twice a certain number added to five times the double of that number gives for the sum 36. What is the number?

3. Mr. James Cobb walked a certain length of time at the rate of 4 miles an hour, and then rode four times as long at the rate of 10 miles an hour, to finish a journey of 88 miles. How long did he walk and how long did he ride?

4. A man bought 3 books and 2 lamps for \$14. The price of a lamp was twice that of a book. What was the cost of each?

5. George bought an equal number of apples, oranges, and bananas for \$1.08; each apple cost 2 cents, each orange 4 cents, and each banana 3 cents. How many of each did he buy?

6. I bought some 2-cent stamps and twice as many 5-cent stamps, paying for the whole \$1.44. How many stamps of each kind did I buy?

7. I bought 2 pounds of coffee and 1 pound of tea for \$1.31; the price of a pound of tea was equal to that of 2 pounds of coffee and 3 cents more. What was the cost of each per pound?

8. A lady bought 2 pounds of crackers and 3 pounds of gingersnaps for \$1.11. If a pound of gingersnaps cost 7 cents more than a pound of crackers, what was the price of each?

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Word Problems - cont.

9. A man bought 3 lamps and 2 vases for $6. If a vase cost 50 cents less than 2 lamps, what was the price of each?

10. I sold three houses, of equal value, and a barn for $16,800. If the barn brought $1200 less than a house, what was the price of each?

11. Five lots, two of one size and three of another, aggregate 63,000 feet. Each of the two is 1500 feet larger than each of the three. What is the size of the lots?

12. Four pumps, two of one size and two of another, can pump 106 gallons per minute. If the smaller pumps 5 gallons less per minute than the larger, how much does each pump per minute?

13. Johnson and May enter into a partnership in which Johnson's interest is four times as great as May's. Johnson's profit was $4500 more than May's profit. What was the profit of each?

14. Three electric cars are carrying 79 persons. In the first car there are 17 more people than in the second and 15 less than in the third. How many persons in each car?

15. Divide 71 into three parts so that the second part shall be 5 more than four times the first part, and the third part three times the second.

16. I bought a certain number of barrels of apples and three times as many boxes of oranges for $33. I paid $2 a barrel for the apples, and $3 a box for the oranges. How many of each did I buy?

17. Divide the number 288 into three parts, so that the third part shall be twice the second, and the second five times the first.

18. Find two numbers whose sum is 216 and whose difference is 48.

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