# Unit II - First Degree Relations with One Placeholder Part E - Problem Solving Using One Placeholder Lesson 2 - "Number" Problems 

For each of the following story problems, answer the five analysis questions to find the open sentence needed to solve. Then solve and use common sense to check your answer.

1. Find a real number such that eight added to twice the number, is the same, as the number multiplied by negative six.
2. One number is nine more than, three times the other. Their sum in fifty-three. What is the smaller number?
3. The difference of two numbers is one hundred twenty. The larger number is, three times the smaller. What are the numbers?
4. The sum of two numbers is ninety-eight. When the larger number is subtracted from, three times the smaller number, the difference is negative one hundred two. Find the smaller number.
5. The sum of, three more than a certain number, and twelve more than twice the number, is the same as the product of two and the number, increased by five. Find the number.
6. A city newspaper printed two-thousand seven hundred copies. The number sold at newsstands was twice the number sent out by mail, and the number delivered by carriers to subscribers in the city was three times the number sold at newsstands. If the entire edition was disposed of, how many newspapers were delivered by carriers?
7. Joe and Alex purchased indentical basketball shoes for a total of one hundred forty-seven dollars. Joe paid, seventeen dollars more for his shoes than Alex did. What did Joe pay?
8. One number is, seven more than another number. The quotient of the larger number divided by the smaller is five-fourths. Find the number.
9. One number is, three more than another. The difference between the larger number and the smaller number is fifteen. Find the numbers.
10. The greater of two numbers is seven more than three times the smaller. Their sum is ninety-one. What are the numbers?

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For each of the following story problems, answer the five analysis questions to find the open sentence needed to solve. Then solve and use common sense to check your answer.

1. The number is -1
2. The number is 42

Other number is 11
3. The smaller number is 60

The larger number is 180
4. The smaller number is -1

The larger number is 99
5. $x=-5$
6. The number of newspapers sold by mail is 300

The number of newspapers sold by carriers is 1800
7. The cost of Alex's shoes is $\$ 65.00$

The cost of Joe's shoes is $\$ 82.00$
8. The numbers are 28 and 35
9. The numbers are 9 and 12
10. The smaller number is $\frac{47}{2}$
$\frac{175}{2}$ is the larger number

