Unit IV – First Degree Relations with Three or More Placeholders
Part C – Problem Solving Using Three or More Placeholders
Lesson 1 – "Number" Problems

For each of the following story problems, answer the four analysis questions to find the sytem of equations needed to solve. Then solve and use common sense to check your answer.

1. Find three numbers, in decreasing order, such that their sum is 20, the difference of the first two numbers is 1, and the sum of the smallest number and the greatest number is 13.

2. The sum of three numbers is 42. The third number is twice the sum of the first two, and is 4 more than, three times their difference. What are the numbers?

3. Shooter, Scooter, and Slammin' Sam together scored 860 points for their basketball team during the past season. If Shooter and Slammin' Sam scored 585 points together and Scooter and Slammin' Sam scored 510 points together, how many did each player score individually?

4. Three numbers added together total 7. The first number plus the second, minus the third is 13. The second number is, 6 more than the first. Find the numbers.

5. Sean, Miguel, and Juan work as graders for the College of DuMath Mathematics department. On the first day of final exams, they graded a total of 496 exams. Sean and Miguel together graded a total of 324 exams, while Miguel and Juan graded a total of 291. How many did Miguel grade by himself?

6. A home remodeling company charges $25 an hour for landscaping, $22.50 an hour for interior decorating and $28 an hour for roof repair. Three people, one from each department, worked a total of 18 hours the first day and earned a total of $448. If the interior decorator worked twice as many hours as the landscaper, how many hours did the roofer work?

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1. F —> The first number is 8
   S —> The second number is 7
   T —> The third number is 5

2. The numbers are 11, 3, and 28.

3. Shooter scored 350 points, Scooter scored 275, and Slammin' Sam scored 235 points.

4. The numbers are 2, 8, and ⁻3

5. Sean graded 205 exams, Miguel graded 119 exams, and Jean graded 172 exams,

6. R = 6; The landscaper worked 4 hours. The interior decorator worked 8 hours.
   The roof repairman worked 6 hours.