**M1**

x – y = –5  
2x + y = –7,

isolating a variable and substituting it in the other equation:

x = y – 5  
2(y – 5) + y = –7 ⬄ 2y – 10 + y = –7 ⬄ 3y = 10 – 7 = 3, y = 1  
  
x = 1 – 5 = –4

**Answer: x =** –**4, y = 1**

**M2**

– x + ½ ≥ 6

– x ≥ 6 – ½

– x ≥ 5,5

as we change the sign of x we must reverse the inequality, thus

**x ≤ –5,5**

**M3**

Let us suppose **x** is the sum of Janette’s investment. At the end of the first year, she will earn 10%, or **0,1x**, of interest. Now she owns x + 0,1x = x(1 + 0,1) of the total sum. At the end of the second year, she’ll have x(1 + 0,1) + 0,1x(1 + 0,1) = x(1 + 0,1)(1 + 0,1) = x(1 + 0,1)2. Given that the initial investment was $1000, at the end of the second year she will have 1000(1 + 0,1)2 = $1210. Janette’s interest at the end of the 2-year period thus amounts to $210.

**L1**

To find out how many zeros are at the end of the product, we should break it down this way:

22 · 44 · 55 · 77 = 22 · 28 · 55 · 77 = 210 · 55 · 77 (as 44 = 28)

The smallest number ending with zero is 10, which is the product of the numbers 2 and 5. So in order to get it we need at least one number 2 and one number 5 (10 = 2 · 5). Therefore, we should look at the factors 210 and 55. However, since 55 can be paired with the number 2 raised to the same power as 5 (in order to yield a number ending with zero), we should take the minimum power of the pair, which is 5. Therefore, there are 5 zeros.

**L2**

Two men catch two fishes in 2 minutes.

In order to reduce the number of variables (men, fishes, minutes) we can introduce a new unit of man minutes. So 2 fishes are caught with 4 man-minutes (2 men × 2 minutes). So 500 fish will be caught with 4/2 × 500 = 1000 man-minutes. In order to find the number of men we must divide the number of man-minutes by the number of minutes: 1000/500 = 2 men are needed.

**L3**

You will give me either the gold coin or nothing.

Let us break the statement down. If it is true, I will get either the gold coin or nothing. However, if I get nothing, according to rules, my sentence was false. Therefore, I will get the gold coin.  
If I get the silver or bronze coin, then my statement was false. In that case, I must get no coin at all. Therefore, the only possible outcome of this sentence is getting the gold coin.

**P1**

The array *A* of *n* integers can be represented by the sequence A1, A2, A3,A4, … , An. The average of the elements thus will be equal to:

Av(A) = (A1 + A2 + A3 +A4 + … + An)/n