PHY2048C: Verbal Algebra Practice

Problem 1
A motorist travelled from Town A to Town B. He took 2 hours to cover the first half of the journey at an average speed of 75 km/h. If his average speed for the whole journey was 60 km/h, find his average speed for the second half of the journey.

Problem 2
Dick has twice as much money as Tom. They have $240 altogether. If Dick gives $20 to Tom, what will be the new ratio of Dick's money to Tom's money?

Problem 3
There is a pair of whole numbers *a* and *b*, each greater than 1 and less than 10, for which $a^b = b^a + 1$. Find the value of $(a+b)^2$

Problem 4
One liter of paint is needed to cover all 6 sides of a cubical block. How many liters will be needed to cover 6 sides of a second cubical block whose edge is twice as long as an edge of the first block?

Problem 5
At first, the ratio of the number of teachers to the number of students in a school is 2 : 25. Then two teachers quit, and the ratio becomes 3:50. What was the initial number of students?

Problem 6
Mr. Wu earned 40 cents from every magazine he sold. He earned an extra $3 for every 30 magazines sold. How many magazines did he sell if he earned $450 altogether?

Problem 7 (Inequalities)
Al, Dick, Jack, and Tom were counting up the results of a day's fishing:

Tom had caught more than Jack.
Between them, Al and Dick had caught just as many as Jack and Tom.
Al and Tom had not caught as many as Dick and Jack.
Rank them in terms of who caught more fish. Greatest first.

Problem 8
Four spotted cows and three brown cows give as much milk in five days as three spotted cows and five brown cows give in four days. (a) Which kind of cow is the better milker, black or brown? (b) What is the ratio between their daily milk production

Problem 9
2/3 of David's money is equal to 1/2 of John's money and equal to 1/3 Daniel's money. Daniel gives his money away to David and John in equal proportions. What is the ratio of David's money to John's money at the end?

Problem 10
There are 80 people at a party. 1/2 of them are men, 1/4 of the remainder are women and the rest are children. How many more adults than children are there?