

Friday Afternoon Fun...

1. (a) Find all sets of positive integers a , b and c that satisfy the equation

$$\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = 1.$$

- (b) Determine the sets of positive integers a , b and c that satisfy the inequality

$$\frac{1}{a} + \frac{1}{b} + \frac{1}{c} \geq 1.$$

2. Find a positive integer the first digit of which is 1 and which has the property that, if this digit is transferred to the end of the number, the number is tripled.
3. Each of Paul and Jenny has a whole number of pounds.

He says to her: "If you give me 3 pounds, I will have n times as much as you".

She says to him: "If you give me n pounds, I will have 3 times as much as you".

Given that all these statements are true and that n is a positive integer, what are the possible values for n ?