Problem of the Week 9, Fall 2005

Additional questions.

Given any two relatively prime positive integers a and b,

1. Find the largest n that cannot be written as the sum of numbers each equal to a or b. If $a = 119, b = 18$ then according to the Problem of the Week 9 the answer would be $n = 2005$.

2. How many positive numbers n cannot be written as the sum of numbers each equal to a or b? For $a = 119$ and $b = 18$ this question is asking how many numbers between 1 and 2005 cannot be written as the sum of numbers each equal to 119 or 18.

3. What are all positive numbers n that cannot be written as the sum of numbers each equal to a or b? Is there a general way of describing this set of numbers in terms of a and b?

Same problems but now with 3 starting relatively prime positive integers a, b, and c.