

## MATH 10B, SPRING 2017, QUIZ 4

For all questions below, a numerical answer is not required. It is sufficient to write an expression using functions that we defined in class. Make sure to explain your answers.

- (1) (a) If there are 100 hours of work to do and you have 6 employees, how many ways are there to divide the work between the 6 employees? Assume that employees cannot work fractions of hours—e.g. an employee cannot work for 5.4 hours.

(b) What if every employee must work at least 10 hours?

- (2) (a) How many ways are there for 20 students to form 6 study groups? Assume every student must be in exactly one study group and no study group can be empty.

(b) How many ways are there for the 20 students to form study groups if they have to form at most 6 study groups, but they are allowed to form fewer than 6? Assume as before that every student must be in exactly one study group.