MATH 110 – QUIZ 5 – 28 SEPTEMBER 2006

Answer all of the following questions in the space provided. All answers must be explicitly calculated.

1. (3 pts. each) Let S be a set with 12 elements.

(a) Determine the number of ordered partitions of S of type $(3, 4, 5)$.

$$\frac{12!}{3!4!5!} = 27720$$

(b) Determine the number of unordered partitions of S of type $(4, 4, 4)$.

$$\frac{12!}{(4!)^3\, 3!} = 5775$$

2. (4 pts.) A team of 11 basketball players must be divided into two teams, one with 5 members and one with 6 for a practice game. In how many ways can this be done?

$$\frac{11!}{5!6!} = 462$$