MATH 110 – QUIZ 4 – 21 SEPTEMBER 2006

Answer all of the following questions in the space provided.

1. (2 pts. each) How many different three-letter words (including nonsense words) can be formed from the 26 letters of the alphabet if

(a) all three letters must be distinct and

$26 \cdot 25 \cdot 24 = 15600$

(#choices for 2nd letter; #choices for 1st letter; #choices for 3rd letter)

(c) repeated letters are allowed.

$26^3 = 17576$

2. (3 pts.) An area code is a three–digit number whose first number cannot be 0 or 1. How many different area codes are possible?

$8 \cdot 10 \cdot 10 = 800$

(#choices for 1st digit; #choices for 2nd digit; #choices for 3rd digit)

3. (1 pt. each) Compute the following.

(a) $P(5,1)$

$P(5,1) = 5$ //

(b) $C(6,5)$

$C(6,5) = C(6,1) = 6$ //

(c) $P(5,5)$

$P(5,5) = 5! = 120$ //