MAT 1372 Statistics with Probability Hmwk 8 Fall 2013

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| 5.5 | p. 244 # 2, 3, 5, 10, 11, 21, 23 |

Note: on exam you will only have use of a calculator,

 so you should be able to find the answers using either
Excel or a calculator.

**2.** Find **(a)**8!**/(**3! 5!) **(b)**7!**/(**3! 4!) **(c)**9!**/(**4! 5!)

(i) By hand (ii) by using an appropriate Excel use of combin

**3.** Given that 9!= 362,880, find 10!.

Check with appropriate Excel use of fact

**5v.** If *X* is a binomial random variable with parameters *n* = 8 and *p* = 0.4,

use Excel to find

**(a)** *P*{*X* = 3}

**(b)** *P*{*X* = 5}

**(c)** *P*{*X* = 7}

**(d)** *P*{*X* < 5}

**(e)** *P*{*X* > 3}

**10.** A multiple-choice examination has 3 possible answers for each of

5 questions. What is the probability that a student will get 4 or more

correct answers just by guessing?

**11.** A man claims to have extrasensory perception (ESP). As a test, a fair

coin is to be flipped 8 times, and he is asked to predict the outcomes in

advance. Suppose he gets 6 correct answers. What is the probability

that he would have got at least this number of correct answers if he

had no ESP but had just guessed?

**21.** The FBI has reported that 44 percent of murder victims are killed with

handguns. If 4 murder victims are randomly selected, find

**(a)** The probability that they were all killed by handguns

**(b)** The probability that none were killed by handguns

**(c)** The probability that at least two were killed by handguns

**(d)** The expected number killed by handguns

**(e)** The standard deviation of the number killed by handguns

**23.** If *X* is a binomial random variable with expected value 4 and variance

2.4, find

**(a)** *P*{*X* = 0}

**(b)** *P*{*X* = 12}