

Time: 50 mins.

December 4, 2001

MATH 207
First Semester 01-02
QUIZ II

Instructions: 1) In exercises 1 and 4, give answers correct to 2 decimal places.

2) In exercises 2 and 3, give answers correct to 4 decimal places.

1. For the data pairs,

x	0	0	1	2	2	3
y	6	5	4	4	3	2

- Find the regression equation.
- Using the equation found in (a), find the predicted values of y for $x = 0$ and $x = 2$.
- Find the coefficient of determination, and interpret its value.

2. Find the area under the standard normal curve:

- between $z = 0$ and $z = 1.90$
- from $z = -2.78$ to $z = -1.53$
- to the right of $z = 1.75$

3. Let x denote the time taken to run a road race. Suppose x is approximately normally distributed with a mean of 195 minutes and a standard deviation of 21 minutes.

- If a runner is selected at random, what is the probability that this runner will complete the race in less than 150 minutes?
- What percentage of all the runners will complete the race in a time between 205 and 245 minutes?

4. A sample of 1000 families showed that 242 own one car each, 376 own 2 cars, 265 own 3 cars each and 117 own four or more cars each. Write the frequency distribution table for this problem. Calculate the relative frequencies for all categories. Suppose one family is randomly selected from these 1000 families. Find the probability that this family owns

- two cars.
- three or more cars.