

MATH110(0402) Elementary Mathematical Models

Quiz 5, Monday, April 6, 2009

Name: _____

Show all work clearly and in order, and circle your final answers. Justify your answers algebraically whenever possible. Calculator is allowed in this quiz. You have 10 minutes to take this 12 point quiz. Only the first 10 points you gain will count.

1. (*10 points*) A potter makes cups, bowls, large plates and small plates in either blue or red. The potter has the following goods in stock:

	Cups	Bowls	Large Plates	Small Plates	Total
Red	35	30	25	50	140
Blue	45	20	40	55	160
Total	80	50	65	105	300

If one item is selected at random, find the following probabilities:

a) The probability that it is red.

b) The probability that it is not a small plate.

c) The probability that it is a blue bowl.

d) The probability that it is blue or a large plate.

e) Are the events “red” and “bowl” mutually exclusive? Justify your answer.

2. (*2 points*) Jeff tosses a fair coin 9 times. The outcomes are $HHTHTTHTH$ (H - Head, T - Tail). Let $A = \{H\}$.

a) What is the estimated probability of A after 9 experiments?

b) What is the (theoretical) probability of the event A ? (Notice: it is a fair coin.)