

MATH 017 SECTIONS 006 AND 007
SPRING 2007
QUIZ 4

1. Assuming that boy and girl babies are equally likely, find the probability that a family with four children has three girls given that the first child is a boy.

- a) $\frac{1}{4}$
- b) 0
- c) $\frac{1}{16}$
- d) $\frac{1}{8}$

2. Assume that two marbles are drawn without replacement from a box with 1 blue, 3 white, 2 green, and 2 red marbles. Find the probability that the first marble is blue and the second marble is green.

- a) $\frac{29}{56}$
- b) $\frac{3}{64}$
- c) $\frac{3}{56}$
- d) $\frac{1}{28}$

3. People in a survey were given three choices of soft drinks and asked to choose their one favorite. The following table shows the results.

	cola	root beer	lemon
under 21 years of age	40	25	20
between 21 and 40	35	20	30
over 40 years of age	20	30	35

One of the participants is selected at random. Find the probability that the person is under 21 given that they prefer root beer.

- a) $\frac{5}{17}$
- b) $\frac{6}{17}$
- c) $\frac{1}{3}$
- d) $\frac{2}{17}$

4. For two events M and N , $P(M) = 0.8$, $P(N|M) = 0.1$, and $P(N|M') = 0.1$. Find $P(M'|N')$.

- a) 0.2
- b) 1
- c) 0.8
- d) 0