

Math 017 Sections 006 and 007

Spring 2007

Quiz 5

1. A car manufacturer has 4 model designs that can be made either as sedans, coupes or convertibles. There are 8 colours available for any car: black, blue, green, red, tan, white, graphite, and bronze; however, no white convertibles may be produced. How many different designs of cars are available from this manufacturer?

a) 88 types

b) 92 types

c) 96 types

d) $4! \times 3! \times 8!$ types

2. Suppose one wanted to visit a chocolaterie, a winery, and a brewery in the same town. Tours are offered at each establishment hourly from 11a.m. through 4p.m. (6 different hours). In how many ways could one schedule all three tours in one day, with the chocolaterie being the second tour of the day?

a) 30

b) 60

c) 10

d) 40

3. Evaluate $\binom{s}{4}$.

a) $\frac{s!}{(s-4)}$

b) $s!$

c) $\frac{4!}{s!(4-s)!}$

d) $\frac{s!}{4!(s-4)!}$

4. If you toss six fair coins, in how many ways can you obtain at most five heads?

- a) 35 ways
- b) 62 ways
- c) 63 ways
- d) 64 ways

5. A family has 5 children. The probability of having a girl is $\frac{1}{2}$. What is the probability of having at least 4 girls?

- a) $\frac{3}{16}$
- b) $\frac{2}{5}$
- c) $\frac{2}{3}$
- d) $\frac{5}{16}$