**1.** (*4 points*) How many odd three digit integers have no repeated digits? Be sure to show your work and, to maximize partial credit, discuss your work.

1st digit has to be odd 1, 3, 5, 7, 9 = 5 ways

2nd digit 0 - 9 = 10 ways - 1st & 2nd digit = 8 ways

3rd digit 1 - 9 = 8 ways

$5 \cdot 8 \cdot 8 = 320$

**2.** (*4 points*) A competition has contests in five different running events, six water events, four cycling events and seven different eating competitions. Each contestant chooses one activity from each event, how many different selections can be made? Be sure to show your work and, to maximize partial credit, discuss your work.

$5 \times 6 \times 4 \times 7 = 840$

Each contestant can choose an event independently of other contestants

**3.** (*4 points*) After choosing the events from the previous problem, each contestant must now choose in what order he will complete the events, how many orderings are possible? Be sure to show your work and, to maximize partial credit, discuss your work.

$4! = 24$