

Name: _____

Permutations

- 1) Find n if $P(n,2) = 72$
- 2) A student is to answer 8 out of 10 questions on an exam. Find n if the student must answer the first three questions
- 3) A history class contains 8 male students and 6 female students. Find the number n of ways that the class can elect 1 president and 1 vice president
- 4) A class contains 10 students with 6 men and 2 women. Find the number n of ways the class can elect a president, vice president, and treasurer
- 5) Find the number n of ways a judge can award first, second and third places in a contest with 18 contestants
- 6) Eight horses are entered in a race in which a first, second, and third prize will be awarded. Assuming no ties, how many different outcomes are possible?
- 7) A club has 10 members. In how many ways can they choose a slate of four officers, consisting of a president, vice president, secretary, and treasurer?
- 8) How many ways are there to choose first, second, and third prizes in an art contest with 15 entrants?
- 9) Theoretically, how many possibilities are there for first, second, and third places in a marathon race with 1000 entries?
- 10) Find the number n of distinct permutations that can be formed from all the letters of each word:
 - 1) THOSE
 - 2) UNUSUAL
 - 3) SOCIOLOGICAL
 - 1) QUEUE
 - 2) COMMITTEE
 - 3) PROPOSITION
 - 4) BASEBAL