Name:_____

Calculate:

a) The number of four-letter words (including nonsense words) that can be formed from the letters A, B, C, D, E, F if repetition of letters is allowed.

$$6 \times 6 \times 6 \times 6 = 6^4 = 1296$$

b) The number of four-letter words (including nonsense words) that can be formed from the letters A, B, C, D, E, F if repetition of letters is not allowed.

$$P(6,4) \text{ or } 6 \times 5 \times 4 \times 3 = 360$$

c) The number of different ways for seven people to be seated from left to right.

$$7! \text{ or } P(7,7) \text{ or } 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$$

$$= 5040$$

d) The number of possible ways to select four out of 37 students to serve on a student committee.   Unordered

$$C(37,4) = 66,045$$