Assignment 0

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Note: This assignment is only for practice purposes and it will not be counted towards your Final course grades.

1. How many ways can four couples be seated at a round table, alternating by sex?
   - 24
   - 36
   - 48
   - 2
   - none of the above
   Accepted Answer: 24
   1 point

2. If a pair of dice are rolled, there are 36 outcomes. What is the probability of rolling a total of 7?
   - 1/6
   - 1/12
   - 1/18
   - 1
   - none of the above
   Accepted Answer: 1/6
   1 point

3. Find the number of 3-digit even numbers with no repeated digits
   - 540
   - 360
   - 120
   - 108
   - 100
   Accepted Answer: 120
   1 point

4. What is the coefficient of $y^3$ in the expansion of $(x + y)^7$?
   - $210x^4y^3$
   - $630x^4y^3$
   - $210x^3y^4$
   - $630x^3y^4$
   - $210x^2y^5$
   - $630x^2y^5$
   Accepted Answer: $210x^4y^3$
   1 point

5. Find the number of binary sequences of length 10 that contain an even number of 1's.
   - $2^{10}$
   - $2^9$
   - $2^8$
   - $2^7$
   - $2^6$
   Accepted Answer: $2^9$
   1 point

6. A soccer sports club has 54 members. 25 members play tennis, 22 play golf and 17 play both tennis and golf. The club also hosts 11 members: 9 table tennis, 7 play handball, of whom 6 play handball and tennis, 2 play handball and golf, and 5 play all three sports. How many people play some of the three sports?
   - 4
   - 6
   - 9
   - 11
   - 17
   Accepted Answer: 11
   1 point

7. Suppose a fair coin is flipped five times. What is the probability that it will be heads exactly two times?
   - $\binom{5}{2} \frac{1}{32}$
   - $\binom{5}{2} \frac{1}{16}$
   - $\binom{5}{2} \frac{1}{8}$
   - $\binom{5}{2} \frac{1}{4}$
   - none of the above
   Accepted Answer: $\binom{5}{2} \frac{1}{16}$
   1 point

8. How many 9-letter words can be formed that contain at least one vowel?
   - $5 \times 2^9$
   - $2^9 - 2^7$
   - $2^7$
   - $5 \times 2^7$
   - none of the above
   Accepted Answer: $2^9 - 2^7$
   1 point