1. For 10 values with $\Sigma x = 50$, what is the mean?

   _____

2. How many ways are there to choose 2 from 5 ($^5C_2$)?

   _____

3. P(A) = 0.5, P(B) = 0.4 and P(A∩B) = 0.2. Are A and B independent?

   ☐ Yes, because P(A)×P(B) = 0.2 = P(A∩B)

   ☐ No, because the values differ

   ☐ Yes, because they are mutually exclusive

   ☐ No, because P(A) > P(B)

4. For X ~ B(10, 0.3), what is E(X) = np?

   _____

5. X ~ N(50, 4) means $\mu = 50$, $\sigma = 2$. Standardize x = 56: what is $Z = (x - \mu)/\sigma$?

   _____

6. For 10 values, $\Sigma x = 50$ and $\Sigma x^2 = 300$. What is the standard deviation? ($\sqrt{(\Sigma x^2/n - \bar{x}^2)}$)

   _____

7. In a combination, the order of the chosen items:

   ☐ must be reversed

   ☐ does not matter

   ☐ must be alphabetical

   ☐ always matters

8. If A and B are mutually exclusive, then P(A∩B) = 0.

   ☐ True ☐ False

9. In a probability distribution table, the probabilities must add up to 1.

   ☐ True ☐ False

10. The normal distribution curve is:

    ☐ a straight line

    ☐ a rectangle

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☐ always skewed right

1. **5**

   Mean = Σx / n = 50 / 10 = 5.

2. **10**

   ${}^5C_2 = 5!/(2!3!) = 120/(2\times6) = 10$.

3. **Yes, because $P(A)\times P(B) = 0.2 = P(A\cap B)$**

   $P(A)\times P(B) = 0.5 \times 0.4 = 0.2$, which equals $P(A\cap B)$, so they are independent.

4. **3**

   $E(X) = np = 10 \times 0.3 = 3$.

5. **3**

   $Z = (56 - 50)/2 = 6/2 = 3$.

6. **2.24**

   $\sigma = \sqrt{(300/10 - 5^2)} = \sqrt{(30 - 25)} = \sqrt{5} \approx 2.24$.

7. **does not matter**

   Combinations ignore order; permutations count order.

8. **True**

   Mutually exclusive events cannot both happen, so their intersection has probability 0.

9. **True**

   A valid distribution has all probabilities summing to 1.

10. **a symmetric bell shape**

    It is the symmetric bell-shaped curve centred on the mean μ.

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