GEOMETRY · CLASSWORK

Binomial Experiments

SCORE / 25

01 Part A · Practice

A binomial experiment has n independent trials, each a success with the same probability p; $P(X = k) = {}_nC_k\, p^k q^{n-k}$.

EXAMPLE

A coin is tossed 4 times. Find P(exactly 3 heads)**.**

1. $n = 4$, $p = \frac{1}{2}$, $k = 3$.

2. ${}_4C_3 \left(\frac{1}{2}\right)^3 \left(\frac{1}{2}\right)^1 = 4 \cdot \frac{1}{16}$

3. $P = \frac{1}{4}$

1 ●○○ Is this a binomial experiment? Explain. A number cube is rolled 17 times; X = number of 6s.

2 ●○○ $n = 6$, $p = 0.3$. Find $P(X = 3)$ to the nearest thousandth.

3 ●○○ Identify n, p, and $q = 1 - p$. A spinner with 5 equal sections (1 red) is spun 22 times. Success: red.

4 ●○○ Is this a binomial experiment? Explain. A number cube is rolled 21 times; X = the sum of the rolls.

5 ●○○ Identify n, p, and $q = 1 - p$. 7 true-false questions are guessed. Success: a correct answer.

6 ●○○ $n = 7$, $p = 0.7$. Find $P(X = 6)$ to the nearest thousandth.

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Preview - the full worksheet and its answer key are at primeworksheet.com