|  |  |
| --- | --- |
| **X (Number of Defects)** | **Probability (P(X))** |
| 0 | *0.00123794* |
| 1 | *0.00928455* |
| 2 | *0.033656495* |
| 3 | *0.078531821* |
| 4 | *0.132522448* |
| 5 | *0.172279183* |
| 6 | *0.179457482* |
| 7 | *0.153820699* |
| 8 | *0.110558627* |
| 9 | *0.067563606* |
| 10 | *0.035470893* |
| 11 | *0.016123133* |
| 12 | *0.006382074* |
| 13 | *0.002209179* |
| 14 | *0.000670644* |
| 15 | *0.000178838* |
| 16 | *4.19152E-05* |
| 17 | *8.62961E-06* |
| 18 | *1.55812E-06* |
| 19 | *2.46019E-07* |
| 20 | *3.38277E-08* |
| 21 | *4.0271E-09* |
| 22 | *4.11863E-10* |
| 23 | *3.58142E-11* |
| 24 | *2.61145E-12* |
| 25 | *1.56687E-13* |
| 26 | *7.53303E-15* |
| 27 | *2.79001E-16* |
| 28 | *7.47324E-18* |
| 29 | *1.28849E-19* |
| 30 | *1.07374E-21* |

Coral S. Schmidt Montilla #148830

Solve the following problem and compute the probability of the Binomial and Poisson distributions.

1. What is the probability of finding two defects in a Binomial distribution, with a sample size of 30, and probability of 0.2?

The probability of finding two defects in a Binomial distribution with a sample size of 30 and a probability of 0.2 is approximately 0.0337.

|  |  |
| --- | --- |
| **X (Number of Flaws)** | **Probability (P(X))** |
| 0 | **0.006737947** |
| 1 | **0.033689735** |
| 2 | **0.084224337** |
| 3 | **0.140373896** |
| 4 | **0.17546737** |
| 5 | **0.17546737** |
| 6 | **0.146222808** |
| 7 | **0.104444863** |
| 8 | **0.065278039** |
| 9 | **0.036265577** |

1. What is the probability of finding 1 flaw in a piece of cloth size 5 square inches?

The probability of finding 1 flaw in a piece of cloth sized 5 square inches is 0.033689735.