Binomial Mean, Variance & Standard Deviation

A student does no revision, and so always has to guess the answers in multiple-choice examinations. If there are 50 questions, each with 4 possible answers, state the mean of the number of correct answers obtained by the student.

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A student does no revision, and so always has to guess the answers in multiple-choice examinations. If there are 35 questions, each with 4 possible answers, state the variance of the number of correct answers obtained by the student.

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A student does no revision, and so always has to guess the answers in multiple-choice examinations. If there are 42 questions, each with 4 possible answers, state the standard deviation of the number of correct answers obtained by the student.

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Now that the main ITN weekday news bulletin has moved to 6:30pm a woman finds that she only gets home from work in time to see the start of the programme on average twice in a working week of five days, each day being equally likely. Find the mean of the number of times she is home to see the start of the programme during a period of six working weeks.

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Now that the main BBC weekday news bulletin has moved to 5:30pm a woman finds that she now gets home from work in time to see the start of the programme on average four times in a working week of five days, each day being equally likely. Find the variance of the number of times she is home to see the start of the programme during a period of five working weeks.

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Now that the main Channel 4 weekday news bulletin has moved to 6pm a woman finds that she now gets home from work in time to see the start of the programme on average three times in a working week of five days, each day being equally likely. Find the standard deviation of the number of times she is home to see the start of the programme during a period of seven working weeks.

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In the manufacture of glass phials it is known that 15% will contain flaws. The phials are packed in boxes of 10. What would the mean number of phials with flaws be per box?

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It is known that 80% of the seeds of particular flowers will germinate in the right conditions. If a packet of 10 seeds is purchased, what would the variance be for the germinating flowers?

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Whilst crossing a bridge the probability that a car will get a puncture is 0.00005. During a given day, 10,000 cars cross the bridge. What would the standard deviation be for the number of cars that get a puncture on the bridge?

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On average, 5% of the items made on a production line are faulty. Samples of 40 are taken every 30mins. What is the mean number of faulty items per sample?