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| **Finding Expected Values from Probability** |
| **(a)** | **(b)** |
| The table shows the probabilities that a biased dice will land on each of the numbers from $1$ to $6$. Yuri rolls the dice $300$ times. Estimate the number of times it will land on a $4$.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Number | $$1$$ | $$2$$ | $$3$$ | $$4$$ | $$5$$ | $$6$$ |
| Probability | $$0.1$$ | $$0.3$$ | $$0.15$$ |  | $$0.2$$ | $$0.1$$ |

 | The table shows the probabilities that a biased four-sided spinner will land on each of the letters from A to D. Jo spins the spinner $200$ times. Estimate the number of times it will land on B.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Letter | A | B | C | D |
| Probability | $$0.23$$ |  | $$0.36$$ | $$0.2$$ |

 |
| **(c)** | **(d)** |
| The table shows the probabilities that a biased four-sided dice will land on each of the numbers from $1$ to $4$. The probability of it landing on a $2$ is the same as it landing on a $3$. Mohid rolls the dice $600$ times. Estimate the number of times it will land on a $1$ or a $3$.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number | $$1$$ | $$2$$ | $$3$$ | $$4$$ |
| Probability | $$0.32$$ |  |  | $$0.28$$ |

 | The table shows the probabilities that a biased five-sided spinner will land on each of the numbers from $1$ to $5$. The probability that the spinner lands on a $4$ is twice the probability that it lands on a $5$. Suzy spins the spinner $500$ times. Estimate the number of times it will land on a $3$ or a $4$.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number | $$1$$ | $$2$$ | $$3$$ | $$4$$ | $$5$$ |
| Probability | $$0.2$$ | $$0.16$$ | $$0.19$$ |  |  |

 |
| **(e)** | **(f)** |
| The table shows the probabilities that a biased four-sided spinner will land on each of the letters from A to D. The probability that the spinner lands on B is 30% more than the probability it lands on A. Omar spins the spinner $400$ times. Estimate the number of times it will land on B or C.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Letter | A | B | C | D |
| Probability |  |  | $$0.2$$ | $$0.225$$ |

 | The table shows the probabilities that a biased dice will land on each of the numbers from $1$ to $6$. The probabilities the the dice will land on a $2$, $3$ or $4$ are in the ratio $5:3:4. $Misbah rolls the dice $1200$ times. Estimate the number of times it will land on a prime number.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Number | $$1$$ | $$2$$ | $$3$$ | $$4$$ | $$5$$ | $$6$$ |
| Probability | $$0.14$$ |  |  |  | $$0.25$$ | $$0.13$$ |

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