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| **Experimental and Theoretical Probability – Dice Differences** |
| **(a)** | **(b)** |
| Roll two dice. Find the difference between the two numbers shown. Repeat the experiment 60 times, tallying and totalling the results. | Show your information as a graph. |
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| --- | --- | --- |
| Dice Difference | Tally | Total |
| $$0$$ |  |  |
| $$1$$ |  |  |
| $$2$$ |  |  |
| $$3$$ |  |  |
| $$4$$ |  |  |
| $$5$$ |  |  |

 |
| **(c)** | **(d)** |
| Complete the sample space to show all possible dice differences. | Calculate the experimental and theoretical probabilities for different outcomes. Give your answers to 3 decimal places. |
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| --- | --- | --- | --- | --- | --- | --- |
|  | $$1$$ | $$2$$ | $$3$$ | $$4$$ | $$5$$ | $$6$$ |
| $$1$$ |  |  |  |  |  |  |
| $$2$$ |  |  |  |  |  |  |
| $$3$$ |  |  |  |  |  |  |
| $$4$$ |  |  |  |  |  |  |
| $$5$$ |  |  |  |  |  |  |
| $$6$$ |  |  |  |  |  |  |

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| --- | --- | --- |
| Outcome | Experimental Probability | Theoretical Probability |
| $$2$$ |  |  |
| $$0$$ |  |  |
| $$5$$ |  |  |
| $$1$$ |  |  |
| $3$ or $4$ |  |  |
| Less than $2$ |  |  |

 |
| **(e)** |
| Compare the experimental and theoretical probabilities. What do you notice? |