


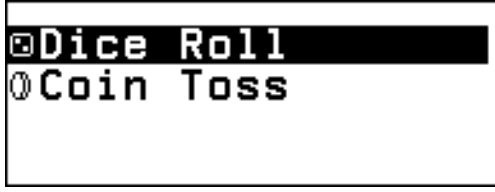
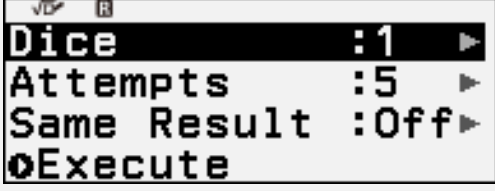
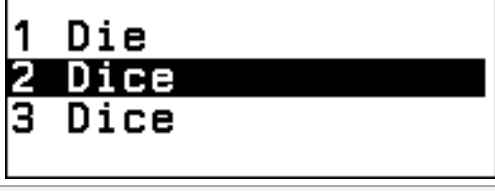

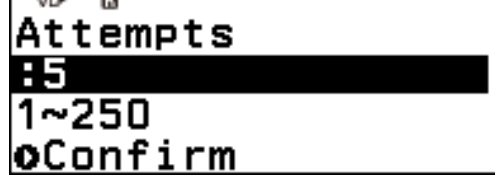
Unit 8: Lesson 6 - Estimating Probabilities Using Simulation



Activity 6.2: Diego's Walk

Skill: Simulate probabilities using the Math Box app and analyze on www.ClassPad.net.

Activity Summary:

This lesson introduces simulations as a way to understand the probability of real-world events. Students will work in groups to design and conduct chance experiments that mimic more complex real-world scenarios which would be difficult to study directly. The Math Box app on the calculator will be used to simulate probabilities when two dice are rolled repeatedly to predict an outcome.

<p>1. Turn on the calculator with the On button. Press Home and then use the arrow keys to highlight the Math Box app in the bottom row of apps.</p>	
<p>2. Press either OK or EXE to open the Math Box app.</p>	
<p>3. Press either OK or EXE to select Dice Roll.</p>	
<p>4. Press either OK, EXE, or right arrow and then down arrow to choose 2 Dice for this activity. Simulations can have up to three dice per roll.</p>	
<p>5. Press either OK or EXE and the calculator will return to the setting screen with Attempts highlighted.</p>	
<p>6. Press either OK, EXE, or right arrow to be able to edit the number of attempts.</p>	

<p>7. The calculator can simulate up to 250 rolls at once. For this activity, 25 attempts are needed. Type in 25 and press either OK or EXE.</p>																										
<p>8. Press either OK or EXE again to Confirm. This will take you back to the settings page. The Same Result setting allows the option of selecting up to three different simulations which will display the same results.</p>																										
<p>9. Leave Off for each simulation to have different results. If you want to have identical results displayed on each calculator, press either OK, EXE, or right arrow to set all to the same value of either #1, #2 or #3.</p>																										
<p>10. Choose your desired Same Result setting and press either OK or EXE. Note: For the <u>ClassPad Student Key</u>, #1 was selected so the same result could be used in class.</p>																										
<p>11. Press either OK or EXE to Roll the Dice. An animation will quickly play across the screen as the calculator processes the results.</p>																										
<p>12. Now select the Result Type. For our activity, we want the List of the data. (This is highlighted by default.)</p>																										
<p>13. Press either OK or EXE to view the data list. When rolling two dice, it will display each die roll along with the sum and difference of the numbers on each die.</p>	<table border="1" data-bbox="945 1491 1419 1654"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>Sum</th> <th>Diff</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>4</td> <td>1</td> <td>5</td> <td>3</td> </tr> <tr> <td>2</td> <td>5</td> <td>5</td> <td>10</td> <td>0</td> </tr> <tr> <td>3</td> <td>1</td> <td>3</td> <td>4</td> <td>2</td> </tr> <tr> <td>4</td> <td>3</td> <td>5</td> <td>8</td> <td>2</td> </tr> </tbody> </table>		A	B	Sum	Diff	1	4	1	5	3	2	5	5	10	0	3	1	3	4	2	4	3	5	8	2
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3	1	3	4	2																						
4	3	5	8	2																						
<p>14. Students can now use the arrow down key down arrow to view and record the Sum data either on paper or within ClassPad to create a graph of the probability Diego must wait more than a minute that day.</p>	<p>QR Codes to ClassPadWorkspace.com for students to enter and graph their data.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Blank</p> </div> <div style="text-align: center;">  <p>Key</p> </div> </div>																									