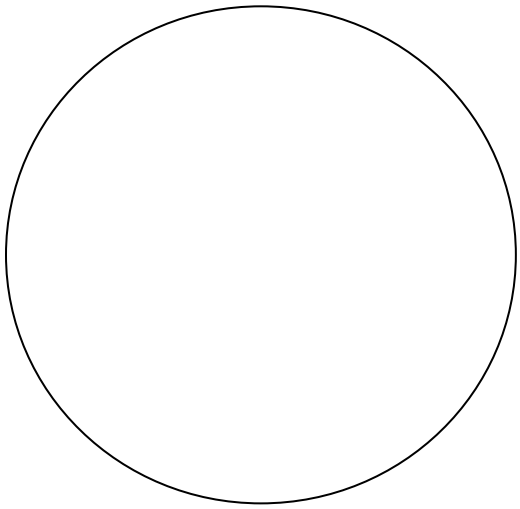
What If Measurement Were Perfect?

Draw a spinner that models perfect measurement—measurement where the measurer always finds the real length of the arm-span.



1. Why did you draw the spinner that way?

2. If you run the spinner more than once, what happens? What does each spin represent?

3. Is the model of perfect measurement a good model? What does it do a good job showing? What does it do a poor job showing?

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Thinking About Errors

We decided that the reason our measurements were not completely precise was because we made mistakes when we measured, no matter how hard we tried.

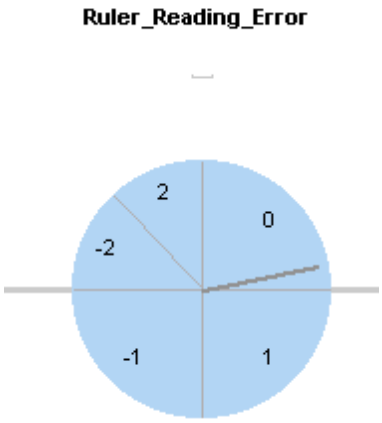
Sources of Error

1. Ruler reading error

Magnitude of Error	Likelihood of Error	Possible Measuring Behavior
0	Most likely	No error.
+ 1 cm.	Somewhat likely	The ruler reading was really something like 14.1 cm., but the person rounded up to 15 cm.
- 1 cm.	Somewhat likely	The ruler reading was really 14.9 cm., but the person rounded it down to 14 cm.
+ 2 cm.	Unlikely	A person would have had to misread more than once, overestimating each time.
- 2 cm.	Unlikely	A person would have had to misread more than once, underestimating each time.

This is a spinner model designed by one student for the reading error:

Magnitude of Error	Likelihood of Error
0	25%
+1 cm.	25%
-1 cm.	25%
2 cm.	12.5%
-2 cm.	12.5%



Next, identify TWO more sources of error and create a spinner model for each using the blank error worksheets.

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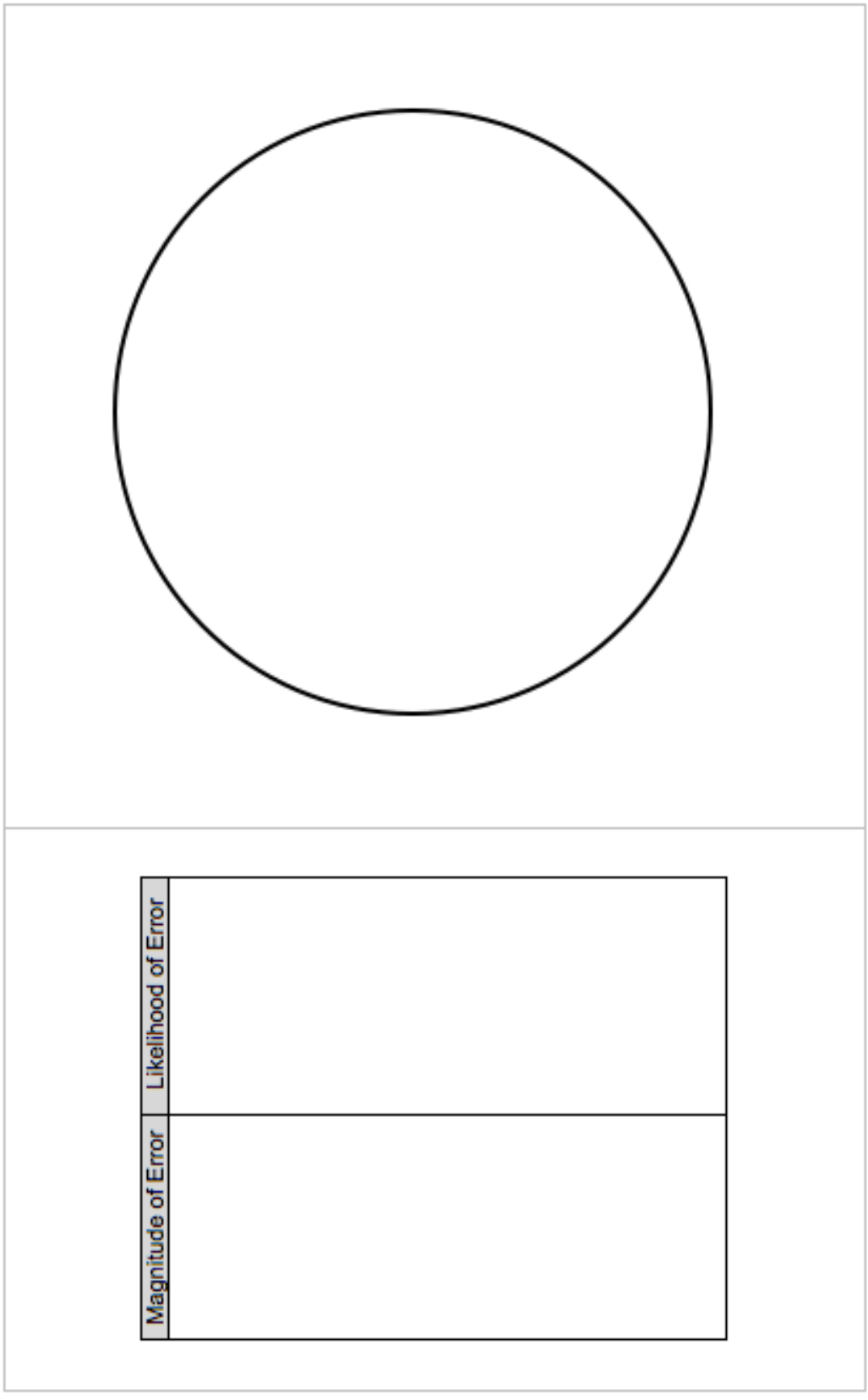

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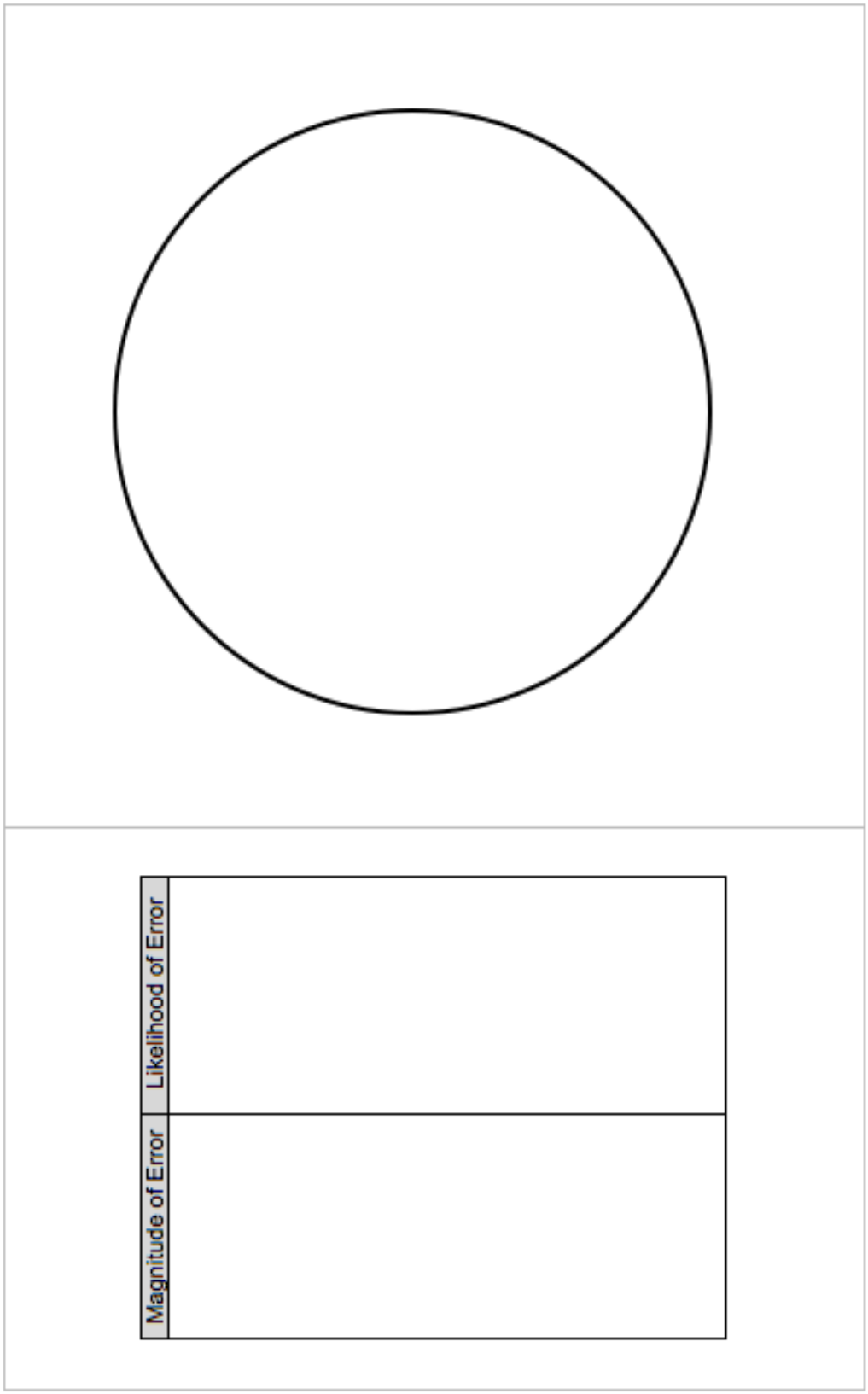

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Model Measure

	Median	Ruler reading error	_____error	_____error	Modeled Measurements
1					
2					
3					
4					
5					
6					
7					
8					
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11					
12					
13					
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