

Relative Frequency

In this activity, you will throw a thumbtack fifty times. You will record the **outcome** of each throw in a table and draw a graph of the **relative frequency** of the thumbtack landing Point Up.

Relative Frequency Table

Throw a thumbtack fifty times, onto a hard surface. *After each throw, complete one row of the table:*

PU/PD Write PU if the tack lands Point Up or PD if the tack lands Point Down.

Frequency of PU In this column write how many times so far the thumbtack has landed Point Up.

Relative Frequency After each throw, use your calculator to calculate the relative frequency as follows:

$$\text{Relative Frequency} = \frac{\text{Frequency of PU}}{\text{Total Number of Throws}}$$

Write the relative frequency (rounded to two decimal places) in this column.

Relative Frequency Graph

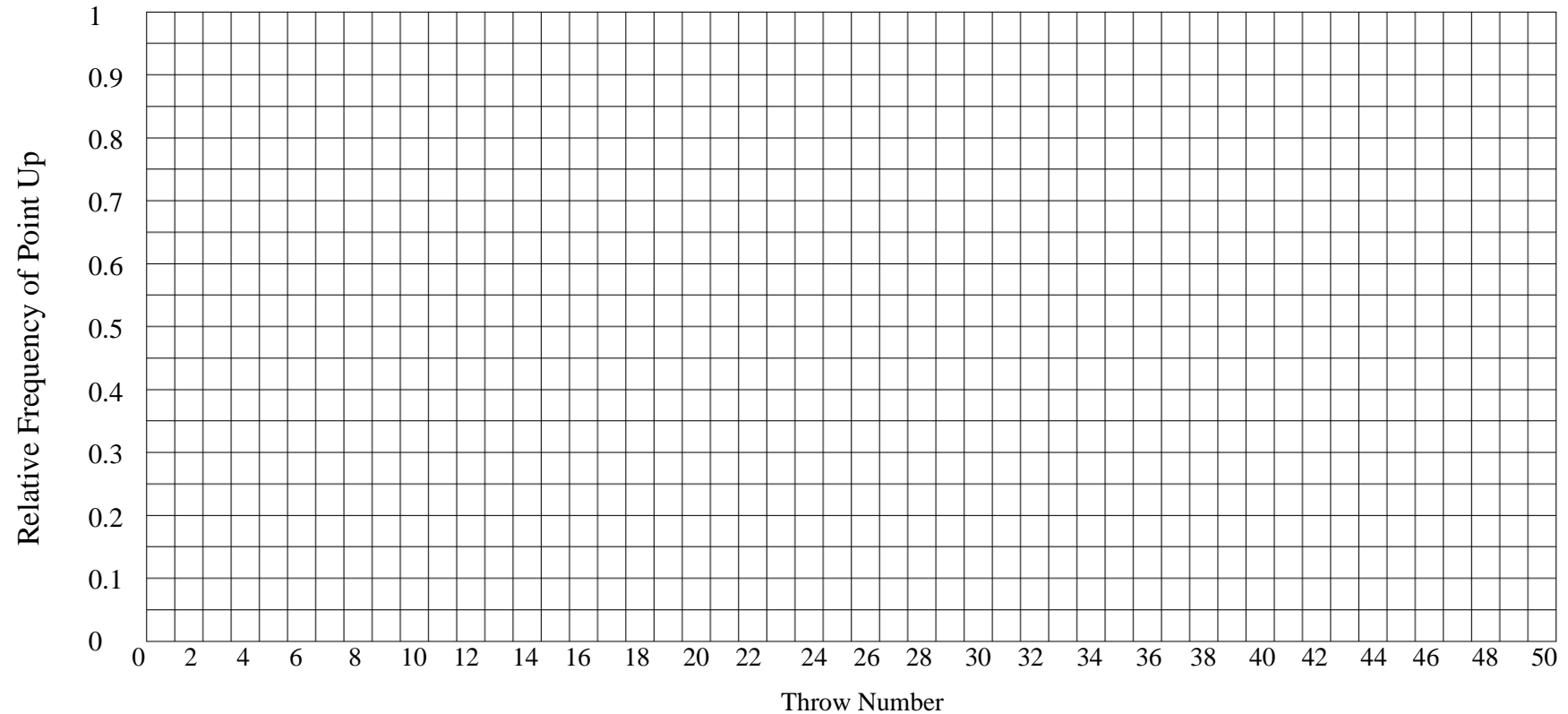
Your teacher will show you how to draw a relative frequency graph.

Relative Frequency Table

Throw no.	PU/PD	Frequency of PU	Relative Frequency
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

Throw no.	PU/PD	Frequency	Relative Frequency
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
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47			
48			
49			
50			

Relative Frequency Graph



An example of how to draw a relative frequency graph

1. At the start, Point Up has occurred zero times. Plot a point at $(0,0)$.
2. Assume the first throw is Point Up. Then the relative frequency of Point Up is 1. Plot a point at $(1,1)$. Draw a line between this point and the previous point.
3. Assume the next throw is Point Down. The relative frequency of Point Up is 0.5. Plot a point at $(2, 0.5)$. Draw a line between this point and the previous point.
4. Assume the next throw is Point Down. The relative frequency of Point Up is 0.33. Plot a point at $(3, 0.33)$. Draw a line between this point and the previous point.
5. Repeat these steps until you have recorded the outcome of all fifty throws.