

Probability Notes

Frequency = number of times something happens

Theoretical Probability

Definition: Chances based on what Should happen.

ex. $P(\text{heads}) = \frac{1}{2}$

What should happen:

Color	Theoretical Probability
Blue	$\frac{12}{25} = 48\%$
Yellow	$\frac{4}{25} = 16\%$
Orange	$\frac{8}{25} = 32\%$
Pink	$\frac{1}{25} = 4\%$
Red	$\frac{0}{25} = 0\%$

Total: 25 cubes

Experimental Probability or

Relative Frequency

Chances based on data (or what actually happened).

What actually happened:

Color	Frequency	Relative Frequency
Blue	4441	$\frac{6}{16} = \frac{3}{8}$
Yellow	111	$\frac{3}{16}$
Orange	1111	$\frac{4}{16} = \frac{1}{4}$
Pink	111	$\frac{3}{16}$
Red		

Total: 16 trials

Vs.