

a A coin lands heads 13 times in 50 flips. Find the relative frequency of heads. <i>0.26</i> relative frequency	b Which gives the better estimate of $P(\text{head})$: 7 heads in 10 flips, or 41 in 100? <i>41 in 100</i> more trials, a better estimate	c 7 heads in 20 flips, then 33 in 80. Use all 100 flips to estimate $P(\text{head})$. <i>0.4</i> pooling all the results	d A fair coin is flipped 10 000 times. Estimate the relative frequency of heads. <i>0.5</i> more trials: nearer the probability
e A fair dice is rolled 600 times. How many 6s would you expect? <i>100</i> the expected number if fair	f A dice shows a six 104 times in 600 rolls. Is it fair or biased? <i>fair (100 expected)</i> close to expected: no sign of bias	g A dice shows a six 190 times in 600 rolls. Is it fair or biased? <i>biased (100 expected)</i> far from expected: biased	h A dice shows a six 3 times in 6 rolls. Can you tell if it is biased? <i>too few rolls to tell</i> too few trials to judge
i Red has relative frequency 0.35. Estimate the number of reds in 1000 spins. <i>350</i> predicting from a relative frequency	j In 80 spins, the relative frequency of red is 0.15. How many reds were there? <i>12</i> a frequency from a relative frequency	k A spinner lands on red 30 times, a relative frequency of 0.25. How many spins? <i>120</i> the number of trials	l Red has relative frequency 0.35 and blue 0.4. Estimate $P(\text{neither})$. <i>0.25</i> relative frequencies sum to 1

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