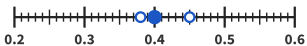


Relative Frequency: More Trials

ANSWERS 

1 A spinner is spun. Red is counted. Mark each result on the line.

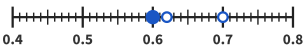
Spins	20	100	500
Red	9	38	200
Relative frequency	0.45	0.38	0.4



Best estimate **0.4**

2 A drawing pin is dropped. It can land point up.

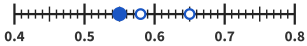
Drops	10	50	200
Point up	7	31	120
Relative frequency	0.7	0.62	0.6



Best estimate **0.6**

3 A bent coin is flipped.

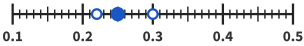
Flips	20	100	500
Heads	13	58	275
Relative frequency	0.65	0.58	0.55



Best estimate **0.55**

4 A dice is rolled.

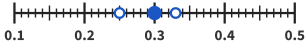
Rolls	10	50	200
Six	3	11	50
Relative frequency	0.3	0.22	0.25



Best estimate **0.25**

5 A counter is taken from a bag and put back.

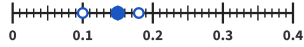
Draws	20	100	400
Blue	5	33	120
Relative frequency	0.25	0.33	0.3



Best estimate **0.3**

6 A bottle is flipped. It can land upright.

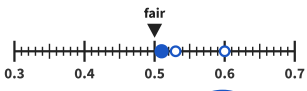
Flips	10	50	200
Upright	1	9	30
Relative frequency	0.1	0.18	0.15



Best estimate **0.15**

7 A fair coin lands on heads with probability 0.5. *Notice the change!*

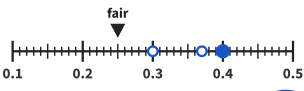
Flips	20	100	500
Heads	12	53	255
Relative frequency	0.6	0.53	0.51



Is it fair? **Yes** No

8 A fair spinner lands on 1 with probability 0.25.

Spins	20	100	400
Lands on 1	6	37	160
Relative frequency	0.3	0.37	0.4



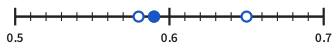
Is it fair? Yes **No**

Relative Frequency: More Trials *further practice*

ANSWERS 

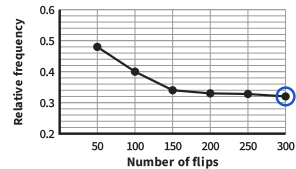
9 A basketball player records how many of her shots score.

Shots	20	100	400
Scored	13	58	236
Relative frequency	0.65	0.58	0.59



(b) **0.59**

10 The graph shows the relative frequency of a bottle landing upright, after every 50 flips.



(a) **0.4**
(b) **0.32**

11 Three friends each spin the same spinner and count how many times it lands on green. Use all of their results to give the best estimate of the probability of green.

	Ali	Bea	Cal
Spins	40	60	100
Green	11	14	27

11 + 14 + 27 = 52 out of 200
Answer **0.26**

12 Kai and Lily each roll the same dice to estimate the probability of a six. Work out both relative frequencies. Whose result gives the better estimate? Explain.

	Rolls	Sixes
Kai	30	9
Lily	600	108

Kai 0.3, Lily 0.18
Answer **Lily's: more rolls**

13 Sara spins a spinner 40 times, then 60 more times. The table shows the relative frequency of red after 40 spins and after all 100 spins. How many times did it land on red in the last 60 spins?

Spins	40	100
Relative frequency of red	0.35	0.3
Number of reds	14	30

Answer **30 - 14 = 16 times**

14 A factory tests its light bulbs and records how many are faulty. It makes 20 000 bulbs a week. How many faulty bulbs would you expect in a week? Use the best estimate.

Tested	200	1000	5000
Faulty	6	21	95
Relative frequency	0.03	0.021	0.019

0.019 × 20 000 = 380
Answer **380 bulbs**

15 Ben rolls a dice 600 times and it lands on six 150 times. Is it likely that the dice is fair? Explain, using the relative frequency.

0.25 is far from $\frac{1}{6}$
Answer **No, likely biased**

16 After 500 spins, the relative frequency of a spinner landing on red is 0.31. Ana says the spinner will land on red exactly 31 times in the next 100 spins. Is Ana right? Explain.

31 is only an estimate
Answer **No**