

6.3 Answers

GCSE Mathematics Probability

6.3.1 Solution to the Introductory Question

Expected is,

$$p(1) = p(2) = p(3) = p(4) = 0.25$$

Roll	1	2	3	4
Frequency	20	10	20	150

Roll	1	2	3	4
Probability (%)	10	5	10	75

This tetrahedral die is biased in favour of 4

6.3.2 Solution to 6.2 Exercise

Answer 1

(i)	30	(ii)	40	(iii)	20	(iv)	15
(v)	5	(vi)	70	(vii)	10	(viii)	1
(ix)	45	(x)	4	(xi)	5	(xii)	64

Answer 2

(i)	10%	(ii)	30%	(iii)	30%
(iv)	20%	(v)	70%		

Answer 3

30%

Answer 4

(i)

Activity	Theatre	Grandma	Stay home
Probability	25%	35%	40%

(ii) stay home

Answer 5

(i)

Result	Win	Draw	Lose
Probability	24%	48%	28%

(ii) (a) 28% (b) 76%

Answer 6**(i)**

Result	Win	Draw	Lose
Probability	69%	13%	18%

(ii) (a) 18%**(b) 31%****Answer 7**

(i) 0.4 (ii) 0.7 (iii) 0.45 (iv) 0.3
(v) 0.1 (vi) 0.45 (vii) 0.65 (viii) 0.05
(ix) 0.8 (x) 0.1 (xi) 0.05 (xii) 0.16

Answer 8**(a) 0.4****(b) 0.35****Answer 9****(i)**

Type of bird	Blackbird	Sparrow	Starling	Robin
Probability (decimal)	0.35	0.25	0.25	0.15

(ii) Blackbird**(iii) 0.65****(iv) 0.5****Answer 10****(a) 0.3****(b) 6****Answer 11****0.4****Answer 12****(i) 20%****(ii) 35%****(iii) 50%****(iv) 40%****(v) 95%****Answer 13**

Roll	Cinema	Dog	Pizza	Bowling
Frequency	5	15	5	25

Roll	Cinema	Dog	Pizza	Bowling
Probability (%)	10	30	10	50

This tetrahedral die is biased in favour of bowling

Answer 14**(i) 0.7****(ii) 0.3****(iii) 0.15**This document is a part of a **Mathematics Community Outreach Project** initiated by Shrewsbury School

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Teachers may obtain detailed worked solutions to the exercises by email from MHHShrewsbury@Gmail.com