

12.2 Answers

GCSE Mathematics Probability

12.2.1 Solutions (12.1 Revision)

Answer 1

- (a) (i) $\frac{2}{7}$ (b) It's palindromic (A palindrome)
- (ii) $\frac{5}{7}$
- (iii) 0
- (iv) $\frac{3}{7}$

Answer 2

- (a) (i) $\frac{1}{8}$ (b) 25
- (ii) $\frac{3}{8}$
- (iii) $\frac{4}{8}$ or $\frac{1}{2}$

Answer 3

- (a) (i) 25% (b) 100%
- (ii) 40%
- (iii) 35%

Answer 4

- (i) 17%
- (ii) 56%
- (iii) 45%
- (iv) 15%
- (v) 72%

Answer 5

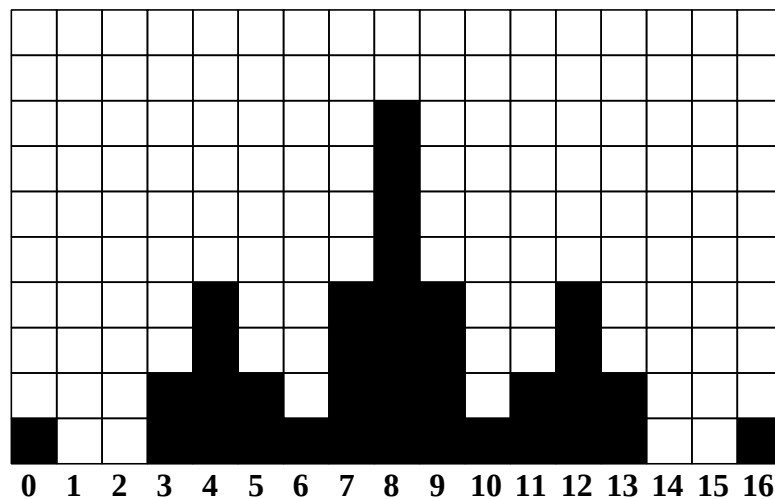
76%

Answer 6

(a)

						
	0	3	4	4	5	8
	3	6	7	7	8	11
	4	7	8	8	9	12
	4	7	8	8	9	12
	5	8	9	9	10	13
	8	11	12	12	13	16

(b)



Make a note that either each square represents a probability of $\frac{1}{36}$ on add numbers and labels to the y-axis

- (c) (i) 8
(ii) 0, 6, 10, 16
(iii) $\frac{16}{36}$ or $\frac{8}{18}$ or $\frac{4}{9}$

Answer 7

Frequencies : 20 16 8 36
Probabilities ; 25% 20% 10% 45%
The die does indeed seem to be biased.

Answer 8

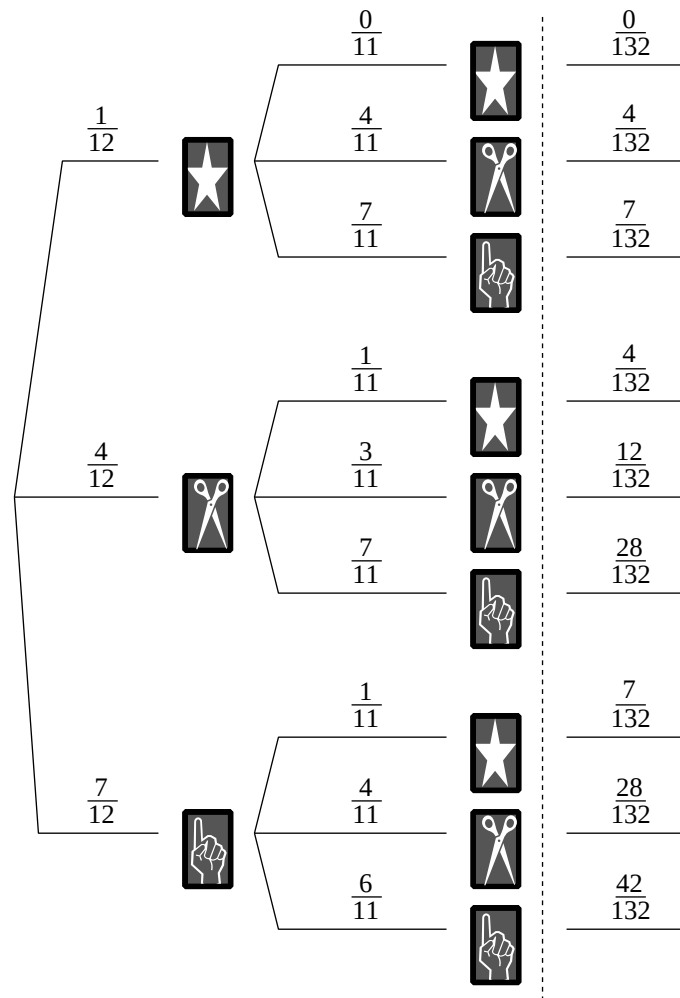
- (i) $\frac{1}{16}$
(ii) $\frac{1}{16}$
(iii) $\frac{4}{16}$
(iv) $\frac{6}{16}$ or $\frac{3}{8}$

Answer 9

- (i) $\frac{4}{121}$
(ii) $\frac{8}{121}$
(iii) $\frac{4}{121}$
(iv) $\frac{28}{121}$
(v) $\frac{56}{121}$
(vi) $\frac{16}{121}$

Answer 10

(i)



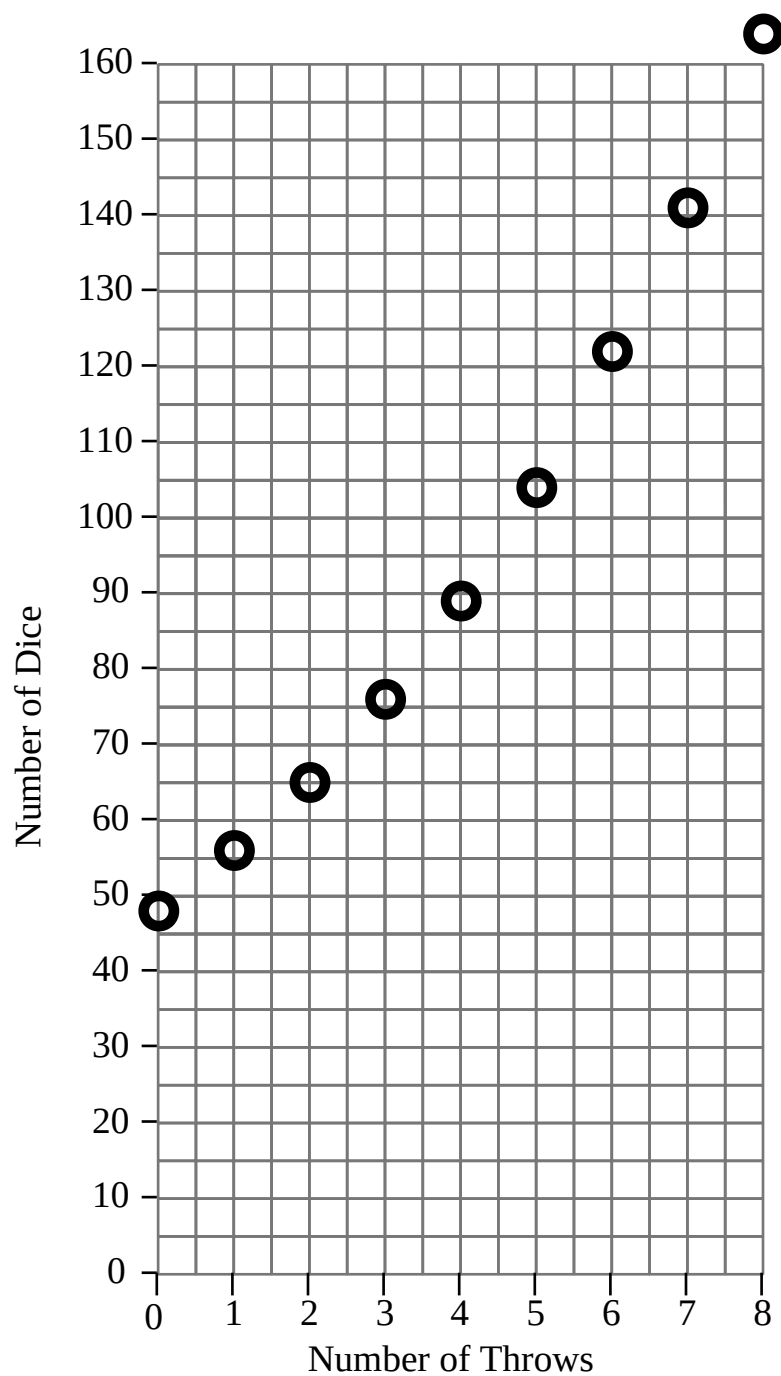
(ii)

$$p(\text{snap}) = \frac{0}{132} + \frac{12}{132} + \frac{42}{132}$$

$$= \frac{54}{132}$$

This is about 0.409, that is 41%

Answer 11



N° of Rolls	0	1	2	3	4	5	6	7	8
N° of Dice	48	56	65	76	89	104	121	141	165

To double takes about 4.5 throws. $\therefore$ After 5 throws

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