Name:

Exam Style Questions

Independent Events

Corbettmaths

Equipment needed: Pen and Calculator

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Video 249

Answers and Video Solutions

1. Gary is playing cricket.

When attempting to catch the ball, the probability Gary is successful is $\frac{3}{4}$

During the game, Gary attempts two catches.

Find the probability Gary is successful with both catches.

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(2)

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2. Helen is taking part in a quiz on TV.

The probability she answers a question correctly is $\frac{4}{5}$

Helen is asked two questions

Calculate the probability she answers both questions correctly.

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(2)

3. A fair six sided dice is rolled three times.

(a) Find the probability of getting a six all three times.

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(2)

(b) Find the probability of getting no sixes.

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(2)

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4. The probability of rain in Torquay on 1st March is 0.7
The probability of rain in Torquay on 1st May is 0.4

Work out the probability that it will rain in Torquay on both 1st March and 1st May.

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(2)

5. Matthew is playing darts.

The probability he hits a bullseye is 0.3

Matthew throws two darts.

(a) Find the probability Matthew hits the bullseye with both darts

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(2)

(b) Find the probability Matthew does not hit the bullseye with either dart

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(2)

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6. A biased coin is flipped twice.

The probability of the coin landing on tails is 0.7

(a) Find the probability the coin lands on heads twice.

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(2)

(b) Find the probability the coin lands on tails exactly once.

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(2)

7. A bag contains 6 yellow sweets and 4 blue sweets.

A sweet is taken out at random, it is replaced, and another is taken out.

Find the probability that at least one sweet is blue.

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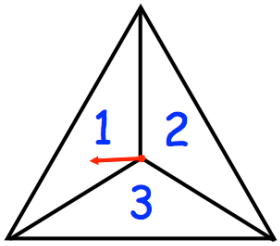
(3)

8. A triangular spinner has three sections of equal size.



The spinner is spun twice.
A score is found by adding the two numbers together.

Find the probability of

(a) a score of 6

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(2)

(b) a score of 5

.....

(2)

(c) a score of 4

.....

(2)

(d) a score of 7

.....

(1)

9. A bag contains 10 counters.

5 of the counters are red
3 of the counters are purple
2 of the counters are white

Sharon chooses a counter at random, records the colour, then replaces it.
Sharon then chooses a second counter at random and records the colour.

What is the probability that both counters are the same colour?

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(4)

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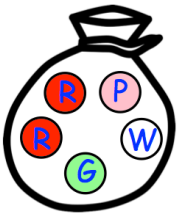
10. A bag contains 5 discs.
Two discs are red (R), one disc is green (G), one disc is white (W) and one disc is pink (P)



A game is played where a disc is removed, the colour noted and it is **replaced**.
Then another disc is removed and the colour noted.

Calculate the probability that the two discs removed are **different** colours

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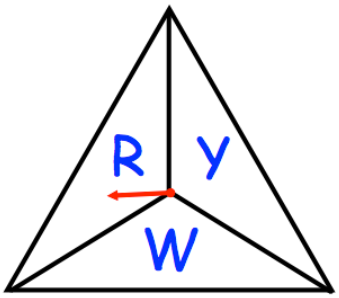
(4)

11. A triangular spinner has three sections of equal size.
One section is red (R), one section is white (W) and one section is yellow (Y)



The spinner is spun three times.

(a) Find the probability that the spinner lands on red (R) at least once.

.....

(3)

(b) Find the probability that the spinner lands on white (W) exactly twice.

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(3)

12. Harry gets the train to work in the morning.
He works Monday to Friday.

The probability the train is late is 0.2

Find the probability the train is late exactly once.

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(4)

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13. James, Fred and Kevin each take a penalty

The probability James scores is $\frac{4}{5}$

The probability Fred scores is $\frac{2}{3}$

The probability Kevin scores is $\frac{3}{4}$

What is the probability

(a) all three score

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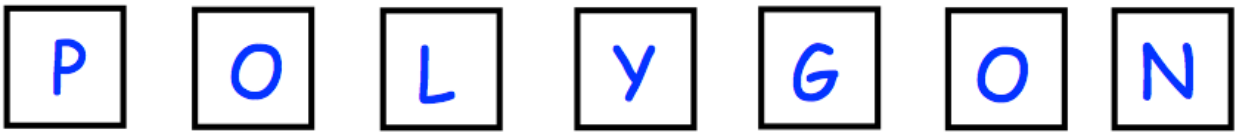
(2)

(b) at least two boys score

.....

(3)

14. There are seven tiles in a bag, each with a letter written on it.



A tile is selected at random, it is **replaced** and then another tile is selected.

Find the probability that both tiles have a different letter on it.

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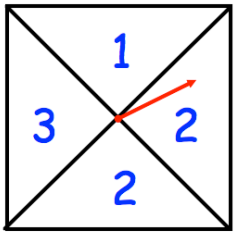
(5)

15. A fair spinner has four sections.



The spinner is spun three times.
The three numbers are added together to give a score.

Find the probability the score is even.

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(5)

16. 3 biased dice are going to be rolled.
The probability of all 3 dice showing a 6 is 0.343

Find the probability of none of the dice showing a 6.

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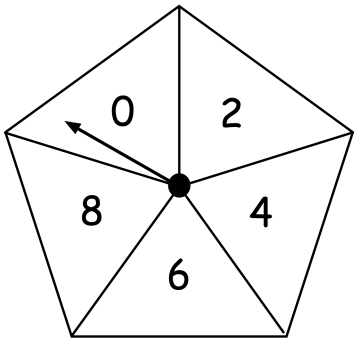
(2)

17. Aidan designs a game.

As part of the game, each player spins a biased spinner with 5 sections.
The player scores the number of points showed in the section the spinner lands on.



The table shows the probability of the spinner landing on each score.

Points	0	2	4	6	8
Probability	0.15	0.12	0.09	x	0.37

(a) Find the probability of the spinner landing on 6 points.

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(1)

During the game, a player spins the spinner twice.
If she scores a total of 14 points or more, she wins the game.

(b) Find the probability that the player wins the game.

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(3)

18. A bag contains yellow beads and green beads in the ratio $1 : 3$

Tamara takes a bead from the bag at random.
She notes the colour and then replaces the bead in the bag.
Tamara does this three times.

Find the probability that the three beads are not the same colour.

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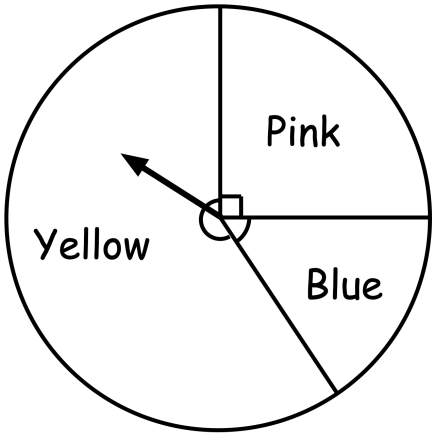
(4)

19. Shown below is a spinner.



Daisy is going to spin the spinner twice.
The probability that the spinner will land on Blue twice is $\frac{9}{400}$

(a) Work out the size of the angle of the blue sector.

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(2)

(b) Find the probability of the spinner landing on yellow twice.

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(2)

20. Tom and Ben sit their driving test.

The two events are independent.

The probability Tom passes is 0.4
The probability that only one man passes is 0.56

Find the probability they both fail.

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(5)