

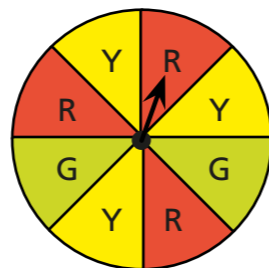
# Calculate the probability of a single event

**1** A fair six-sided dice is rolled.  
What are the probabilities of the events?



- |                          |                      |                                 |                      |
|--------------------------|----------------------|---------------------------------|----------------------|
| a) rolling the number 5  | <input type="text"/> | d) rolling a number less than 5 | <input type="text"/> |
| b) rolling the number 6  | <input type="text"/> | e) rolling the number 7         | <input type="text"/> |
| c) rolling an odd number | <input type="text"/> | f) rolling a square number      | <input type="text"/> |

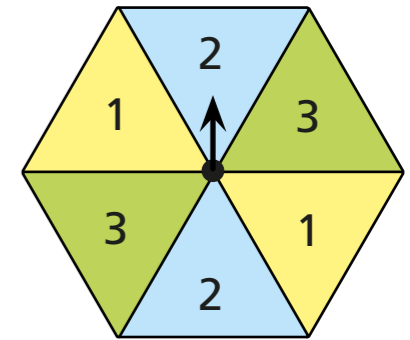
**2** Amir spins the spinner.  
Each section is equally likely to be landed upon.  
Find the probabilities.



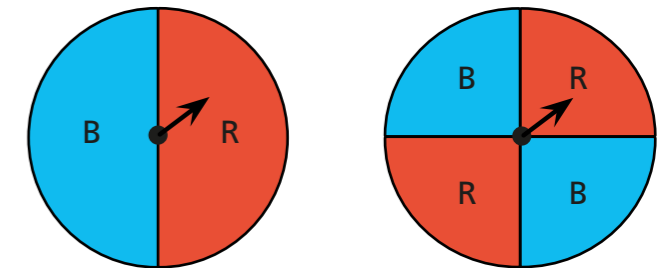
- |                             |                      |
|-----------------------------|----------------------|
| a) landing on red           | <input type="text"/> |
| b) landing on green         | <input type="text"/> |
| c) landing on red or yellow | <input type="text"/> |
| d) landing on blue          | <input type="text"/> |

**3** Here is a numbered spinner.  
Work out the probabilities.

- |                                     |                      |
|-------------------------------------|----------------------|
| a) P(spinning a 1)                  | <input type="text"/> |
| b) P(spinning an odd number)        | <input type="text"/> |
| c) P(spinning a number less than 4) | <input type="text"/> |



**4** a) Here are two spinners.



The probability of spinning blue on each of these spinners is equal.

Is the statement true or false? \_\_\_\_\_

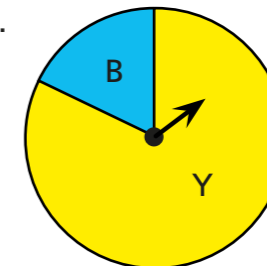
Explain your reasons.

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b) Here is another spinner.



The probability of the spinner landing on yellow is 50%.

Is the statement true or false? \_\_\_\_\_

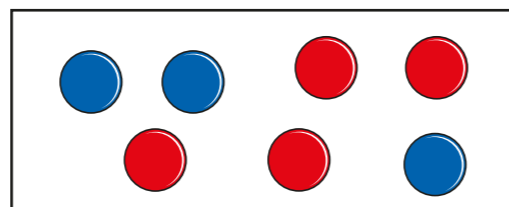
Explain your reasons.

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- 5 A box contains some coloured counters.  
4 counters are red and 3 are blue.  
A counter is selected at random.



Work out the probability that the counter is red.

- 6 A box of chocolates contains 4 mint, 3 strawberry and 2 toffee chocolates.  
Annie selects a chocolate from the box at random.  
Find the probability that the chocolate selected is:

a) mint

b) mint or strawberry

c) not strawberry



- 7 A cupboard contains a box of whiteboard pens.  
4 of the pens are black, 3 are green, 2 are yellow and 1 is red.  
A pen is selected at random.  
Find the probability that the pen is:

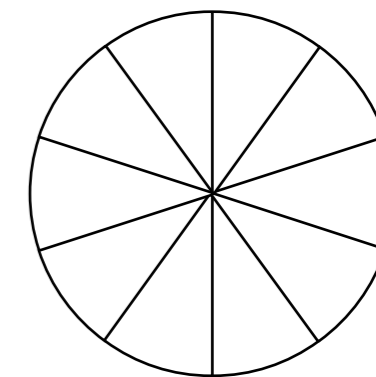
a) red

b) green or yellow

c) not green

- 8 A spinner has ten sections.  
Colour the spinner so that:

- the probability of spinning red is  $\frac{3}{10}$
- the probability of spinning blue is 60%.



- 9 The table shows the number of students in each year group at a school.

Year group	Year 7	Year 8	Year 9	Year 10	Year 11
Probability	120	150	175	165	120

A student is selected at random.

Find the probability that the student will be:

a) from Year 7

c) not from Year 8

b) from Year 10 or Year 11

- 10 A charity is running a raffle.

- The charity sells 250 red tickets numbered 1 to 250
- The charity sells 170 green tickets numbered 1 to 170

A ticket is chosen at random to win a holiday.

Find the probability that the ticket selected will be:

a) green

c) numbered 201

b) numbered 100

d) numbered 263