

# Single event probability



- 1 A bag contains some counters.  
A counter is selected at random.  
Work out the probabilities.



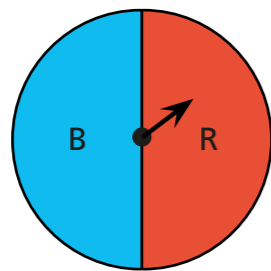
a)  $P(\text{green}) =$

c)  $P(\text{not white}) =$

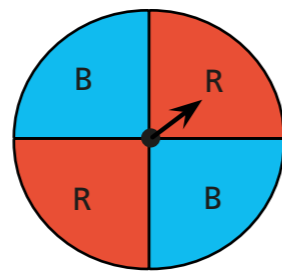
b)  $P(\text{blue or red}) =$

d)  $P(\text{yellow}) =$

- 2 Here are two spinners.



spinner 1



spinner 2

The probability of spinner 2 landing on red is twice as likely as spinner 1 landing on red.

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

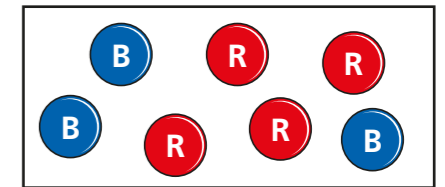
Explain your reasons.

---



---

- 3 A box contains some red and blue counters.  
A counter is selected at random.  
Work out the probability that the counter is blue.




- 4 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

c) not strawberry

b) mint or strawberry

d) mint or strawberry or toffee

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

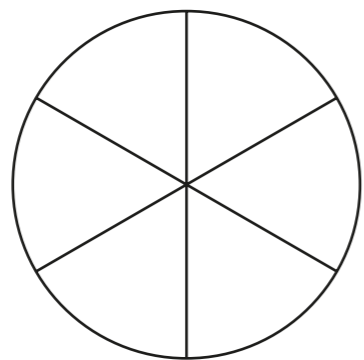
a) blue

c) not green

b) green or yellow

d) purple

6



Complete the spinner using six different numbers so that:

- $P(\text{factor of } 12) = \frac{1}{2}$
- $P(\text{a square number}) = \frac{1}{2}$

How many different solutions can you find?

7

A theatre sold adult and child tickets for a show in the ratio 2 : 3

A ticket is selected at random.

Work out the probability that a child ticket is selected.

8

A wholesaler sells boxes of crisps in two different sizes.

- A small box contains 30 packets of cheese and onion crisps and 20 packets of salt and vinegar crisps.
- A large box contains 50 packets of cheese and onion crisps and 30 packets of salt and vinegar crisps.

A packet of crisps is chosen at random.

From which box are you more likely to choose a packet of salt and vinegar crisps? \_\_\_\_\_

Show workings to justify your answer.



9

A box contains toffee, coffee, orange, mint and hazelnut flavour chocolates.

The ratio of toffee : coffee : orange : mint chocolates is 5 : 4 : 2 : 3

The probability of picking a hazelnut chocolate is  $\frac{1}{8}$

How many hazelnut chocolates are in the box?

10

In a bag there are green and yellow counters.

There are 3 green counters and the rest are yellow.

a) Whitney says, "The probability of picking a green counter is  $\frac{3}{3+n}$ "

Explain why Whitney is correct.

---



---

b) Write an expression for  $P(\text{yellow})$ .

---

11

A box contains  $x$  apples.

5 are green and the rest are red.

Write an expression for  $P(\text{red})$ .

---

