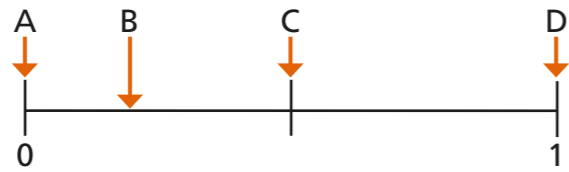# Understand and use the probability scale

1 Here is a probability scale.

Events A, B, C and D are marked on the scale.

A   B   C   D

0   1

Match the letters to the correct events.

Event	Letter
probability of rolling a number less than 7 on a standard dice	
probability that you will be younger tomorrow than you are today	
probability of flipping a head on a fair standard coin	
probability of picking a red counter from a box containing 4 black and 1 red counters	

2 Here is a probability scale and some events.

Draw a line from each event to its probability on the scale.

0   1
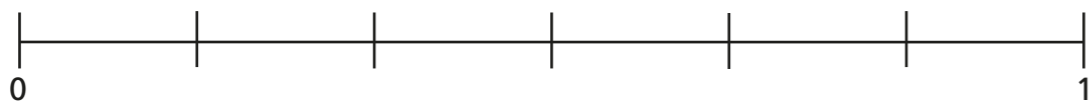
| probability of rolling a 5 on a fair standard dice	probability of rolling an even number on a fair standard dice	probability of rolling a number less than 5 on a fair standard dice

3 A bag contains some blue (B) and red (R) counters.

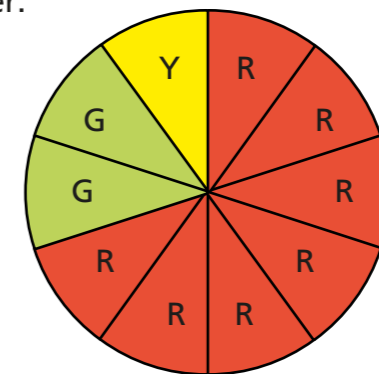Tom removes one of the counters at random from the bag.
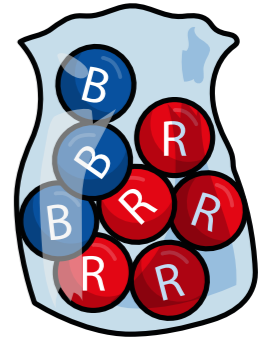
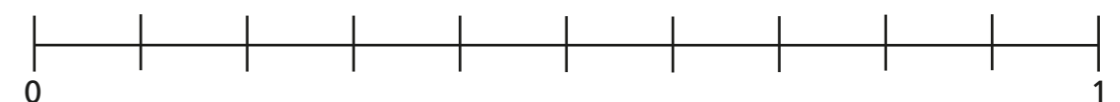**a)** On the scale, draw an arrow to show the probability that he gets a red counter.

0      $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ 1
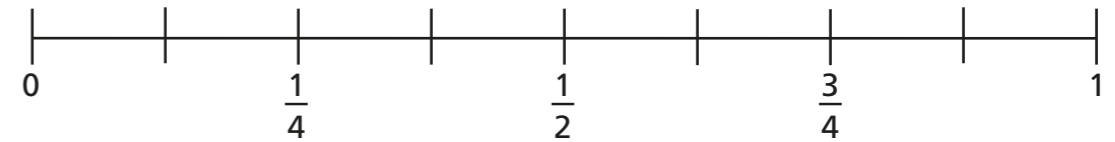
b) On the scale, draw an arrow to show the probability that he gets a blue counter.

0      $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ 1
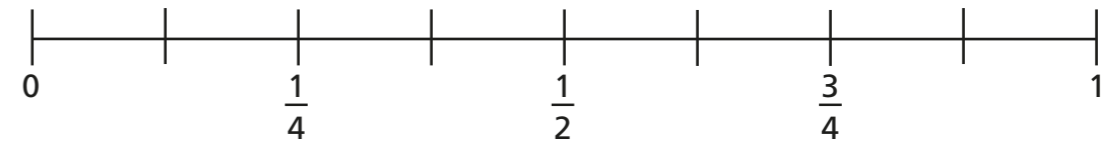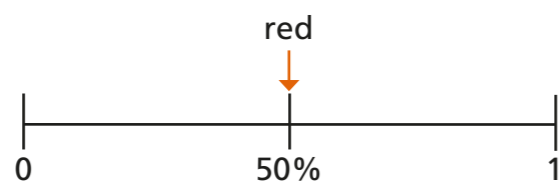
4 Aisha spins the fair spinner.
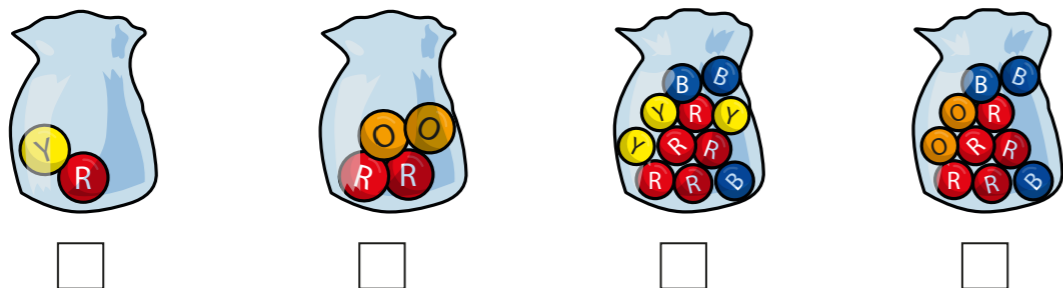
Mark on the scale the probability of landing on each colour.
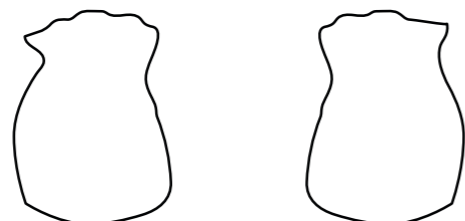
0   1

5 A bag contains some coloured counters.

A counter is taken out of the bag at random.

The arrow shows the probability of picking a red counter from the bag.

red

0   50%   1

a) Tick the bags with this probability of a red (R) counter.
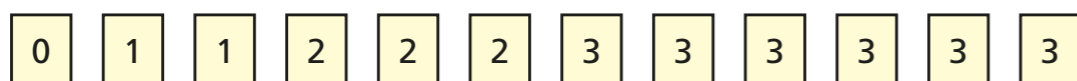

☐   ☐   ☐   ☐

b) Draw two more bags of counters with this probability of a red counter.

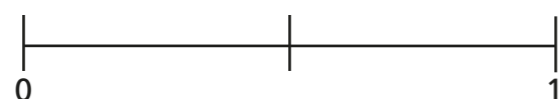**c)** What is the same about all the bags where the probability of choosing red is $\frac{1}{2}$?

6 The digit cards are put into a hat.

| 0 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |

A card is taken out of the hat at random.

a) Mark on the scale the probability of getting the number 2

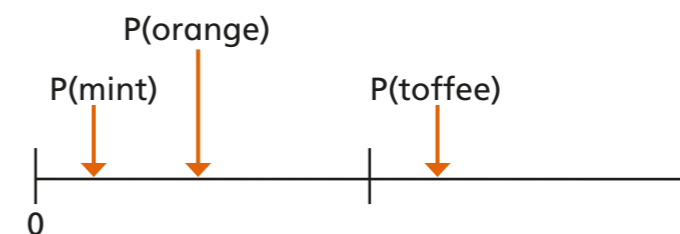0   1

b) Explain your reasoning.

_____

_____

7 A box contains some chocolates.

There are mint, orange and toffee chocolates in the box.

Teddy chooses one at random.

The probabilities of choosing each type are shown on the scale.

P(orange)

P(mint)   P(toffee)

0   1

Decide whether the statements are true or false or you are unable to tell.

Statement	True	False	Can't tell
There is one mint chocolate in the box.			
More than half of the chocolates are toffees.			
There are more mint chocolates than orange ones in the box.			
There are exactly twice as many toffee chocolates as orange ones.			

Discuss the reasons for your answers with a partner.

8 A team plays a game of football.

The probability scale shows the probability that they win or draw the game.

P(draw)

P(win)

0   1
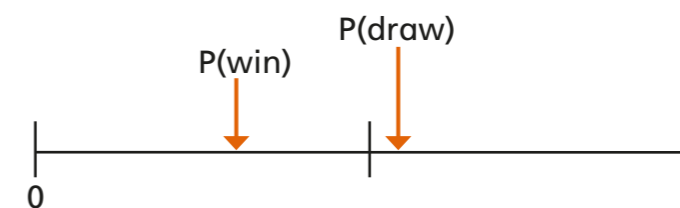
Draw an arrow on the scale to estimate the probability that they lose the game.