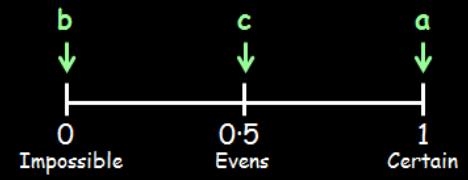
Working with Probability

Outcome 1 – Estimating Probability

Examples...



(a) If today is Monday then tomorrow will be Tuesday.

(b) Roll a dice and it will land on 8.

(c) Toss a coin and it will land on 'tails'.

Questions...

Draw a probability line for each of these sets of events...

1. (a) A tennis player will win Wimbledon this year.
   (b) Toss a coin and it will land on 'heads'.
   (c) If today is Wednesday then tomorrow will be Friday.
2. (a) The Christmas holidays will be in June next year.
   (b) An ice-cream will melt if left on a hot, summer's day.
   (c) Roll a dice and it will land on an odd number.
3. (a) The next person you see will be male.
   (b) A rugby team will win the next 6 nations tournament.
   (c) Peru will win the football European Championships.
4. (a) Picking, at random, a red playing card.
   (b) The sun will rise tomorrow morning.
   (c) September will come before August next year.
5. (a) April will have more than 30 calendar days next year.
   (b) Picking an even number from 2, 3, 4, 5, 6, 7, 8, 9.
   (c) The total score of 2 dice is more than 12.

Outcome 2 – Calculating Probability

Examples...

Probability should be written as a fraction in its simplest form

A dice numbered 1 to 6 is rolled. What is the probability that a 2 is rolled? $\frac{1}{6}$

There are 52 cards in a pack. If a card is chosen at random, what is the probability that it will be a diamond? $\frac{1}{4}$

Questions...

Write down the probability of each event happening...

1. Tossing a coin and getting 'heads'.
2. Picking a month of the year at random and choosing July.
3. Rolling a dice and getting a 3.
4. Choosing a playing card at random and getting a spade.
5. Picking a day of the week at random and choosing Wednesday.
6. From a bowl containing an apple, a banana, and an orange, picking an orange.
7. Selecting the letter U from the word RIGOUR.
8. Choosing a red pencil from a box containing a red, a yellow and a green pencil.
9. From the days of the year, choosing Easter Sunday.
10. Picking the number 10 from the numbers on a clock face.

Outcome 3 – Choosing at Random

Examples...

A bag contains 2 red balls, 3 green balls, 2 yellow balls and 4 purple balls.

A ball is chosen at random.

What is the probability of...

...picking a green ball? $\frac{3}{11}$

...picking a purple ball? $\frac{4}{11}$

Questions...

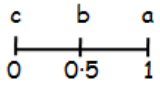
A bag contains 2 green counters, 3 red counters, a yellow counter and a blue counter. A counter is chosen at random. What is the probability of choosing...

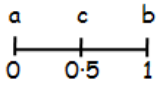
1. a red counter?
2. a green counter?
3. a yellow counter?
4. a purple counter?
5. a blue counter?

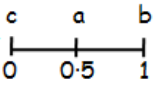
A bag contains 5 purple tokens, 2 red tokens, 3 blue tokens and a green token. A token is chosen at random. What is the probability of choosing...

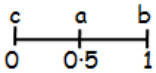
6. a purple token?
7. a red token?
8. a blue token?
9. a green token?
10. a yellow token?

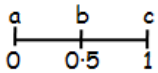
Outcome 1 Answers

1. 

2. 

3. 

4. 

5. 

Outcome 2 Answers

1.	1/2	2.	1/12
3.	1/6	4.	1/4
5.	1/7	6.	1/3
7.	1/6	8.	1/3
9.	1/365	10.	1/12

Outcome 3 Answers

1.	3/7	2.	2/7
3.	1/7	4.	0
5.	1/7	6.	5/11
7.	2/11	8.	3/11
9.	1/11	10.	0