

## Probability

Probability tells us how likely something is to happen.

1. Choose one of the following to describe the likelihood of the event happening.

Impossible      Unlikely      Even      Likely      Certain

- (a) Snowing in Scotland during Winter.
- (b) Flipping heads on a coin.
- (c) Finding £100 note.
- (d) Halloween will be in December this year.
- (e) If I roll a dice 20 times, I will roll at least one 6.

2. What is the probability of rolling the following on a regular 6 sided die?

- (a) Roll a 5                      (b) an even number                      (c) Roll a 7



3. A lucky dip bag contains 7 red balls, 3 silver balls and 2 gold balls.

If you pick a silver ball you win a small prize.

If you pick a gold ball you win a big prize.

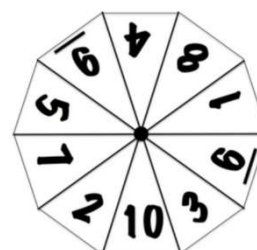
What is the probability of:

- (a) Winning a small prize                      (b) Winning a big prize
- (c) Not winning a prize                      (d) Winning a small or big prize.

4. A 10-sided spinner is used for a board game.

Calculate the probability of spinning:

- (a) An even number                      (b) A prime number
- (c) A multiple of 4                      (d) A number greater than 7.



5. A dartboard has zones labelled 1 to 20.  
Ryan throws a dart at the board.  
Calculate the probability of:
- Hitting a prime number.
  - Hitting a multiple of 7.
  - Hitting a number less than 9.



6. There are 24000 people at a concert. The probability of someone at the concert being female is  $\frac{2}{5}$ . How many females were there at the concert?

7. At a fayre there are two raffle competitions.  
The probability of winning in the first raffle is  $\frac{1}{6}$ . There are 342 tickets.  
The probability of winning in the second raffle is  $\frac{2}{5}$ . There are 220 tickets.  
Which raffle has more winning tickets?



8. In a class of pupils, everyone owns either an Iphone or an Android phone.  
If the probability of owning an Android phone is  $\frac{3}{7}$ ,  
what is the probability of owning an Iphone?



9. Michael flips three separate coins.
- Write down all the possible outcomes for the three coins.
  - What is the probability of flipping heads on all the coins?
  - What is the probability of flipping two tails and one heads?
  - If you had 4 coins, what would the probability be of flipping four tails?
10. In a bag of sweets, the probability of choosing an orange sweet is  $\frac{1}{3}$ ,  
the probability of choosing strawberry is  $\frac{2}{5}$  and the probability of  
choosing lemon is  $\frac{1}{6}$ . The rest are Blackcurrant.  
What is the probability of choosing blackcurrant?