

Probability

1. What is the probability of obtaining a 4 when a single fair dice is rolled once?
2. In a group of 30 students contains, 6 of the students have red hair. If the teacher chooses a student at random, what is the probability that the student has red hair? Give your answer as a fraction in its lowest terms.
3. If the probability of randomly choosing a red pen from a box that contains 12 pens is 0, what do you know about the colours of the twelve pens?
4. A bag contains 17 sweets and 7 of these are caramels, 5 and mints and the remaining 7 sweets are soft centred strawberry flavour. If a sweet is chosen at random from the bag what is:
 - a. $P(\text{strawberry})$
 - b. $P(\text{caramel})$
 - c. $P(\text{caramel or mint})?$
5. A bag contains 20 counters that are individually numbered from 1 to 20. If a counter is randomly selected from the bag, what is:
 - a. $P(\text{prime number})$
 - b. $P(\text{Multiple of 3})$
 - c. $P(\text{Factor of 30})?$
6. A box contains 24 pens that have an identical appearance and 7 of these pens is filled with blue ink, 9 with black ink, 5 with red ink and 3 with green ink. If a pen is selected at random from the box - giving your answer as a fraction in its lowest terms - what is:
 - a. $P(\text{green})$
 - b. $P(\text{red})$
 - c. $P(\text{blue})$
 - d. $P(\text{black})$
 - e. $P(\text{red or blue})$
 - f. $P(\text{black or blue})$
 - g. $P(\text{red or green})$