O Level E Maths   Tutorial 18: Probability

1. (i)   If I toss a coin, what is the probability of getting a tail?

    (ii)   When I throw a die, what is the probability of getting a number that is more than 4?

2.   A coin is tossed twice and the outcomes recorded.

    (i) Complete this possibility diagram, using H for head and T for tail.

	H	T
H	HH	
T		

Figure 18-1

    (ii) And this one. (This possibility diagram is also called a tree diagram. Is the reason obvious?)
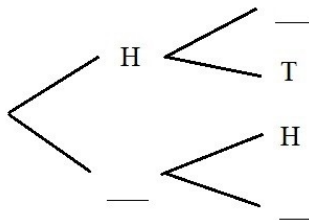

Figure 18-2

3.   A bag contains 6 blue balls and 4 red balls. Two balls are picked at random, one after another. This tree diagram shows the possible outcomes.
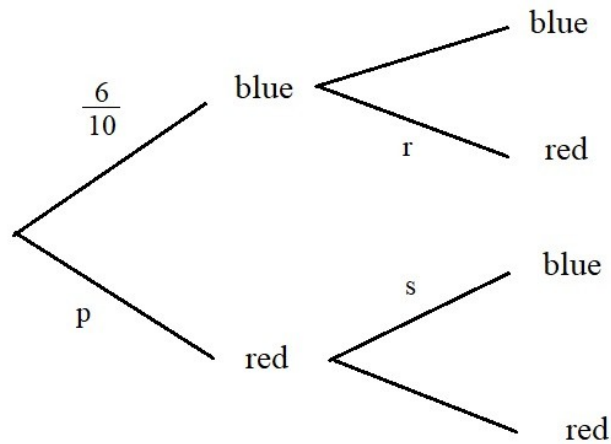

Figure 18-3

The number next to a line gives the probability of that outcome.

(i)   r is the probability of picking a red ball when the first ball is blue. Find r.

(ii)   p is the probability that the first ball is red, and s the probability that the second ball is blue.   Find p and s.

(iii) What is the probability of picking a red ball followed by a blue ball?

• addition and multiplication of probabilities (mutually exclusive events and independent events)
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4. (a) The probability that it would rain tomorrow is 1/3. The probability that it would rain the day after tomorrow is 1/4.   Assuming that they are independent, what is the probability that it would rain tomorrow <u>and</u> the day after?

   (b)   The probability that I would go to the zoo tomorrow is 1/3. The probability that I would go to the bird park tomorrow is 1/4. Assuming that I can only go to one of them, what is the probability that I would go to the zoo <u>or</u> the bird park tomorrow?