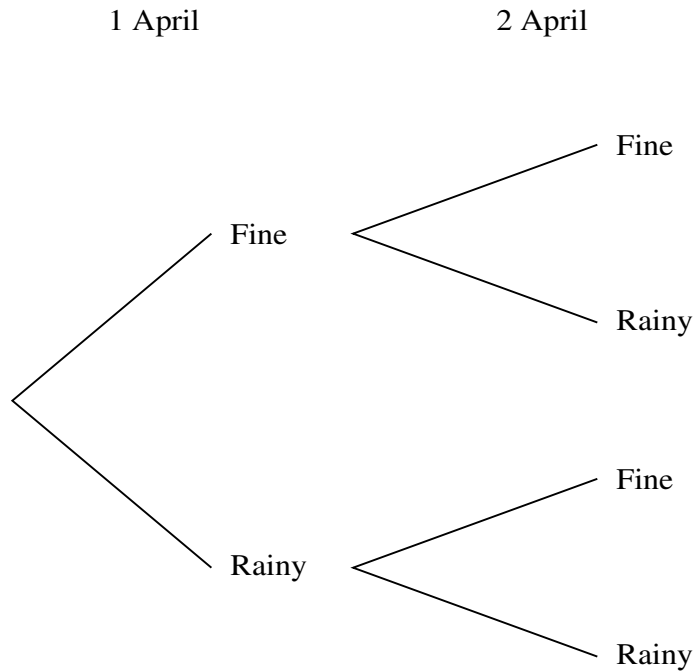


- 4 In a certain country, the weather each day is classified as fine or rainy. The probability that a fine day is followed by a fine day is 0.75 and the probability that a rainy day is followed by a fine day is 0.4. The probability that it is fine on 1 April is 0.8. The tree diagram below shows the possibilities for the weather on 1 April and 2 April.

(a) Complete the tree diagram to show the probabilities.

[1]



(b) Find the probability that 2 April is fine.

[2]

[illegible]

Let X be the event that 1 April is fine and Y be the event that 3 April is rainy.

- (c) Find the value of $P(X \cap Y)$. [3]

[illegible]

- (d) Find the probability that 1 April is fine given that 3 April is rainy. [3]

[illegible]