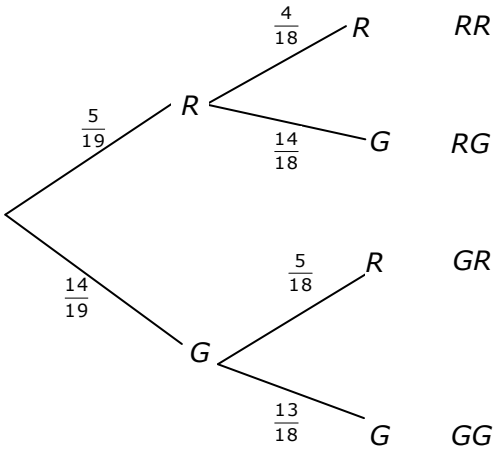
2014 12c A packet of lollies contains 5 red lollies and 14 green lollies. Two lollies are selected at random without replacement.

(i) Draw a tree diagram to show the possible outcomes. Include the probability on each branch. **2**

(ii) What is the probability that the two lollies are of different colours? **1**

(i)



(ii) P(different colours)

$$= P(RG) + P(GR)$$

$$= \frac{5}{19} \times \frac{14}{18} + \frac{14}{19} \times \frac{5}{18}$$

$$= \frac{70}{171}$$

State Mean:
1.77
0.79

* These solutions have been provided by *projectmaths* and are not supplied or endorsed by BOSTES.

Board of Studies: Notes from the Marking Centre

(i) Most candidates answered this part correctly and showed that they had a good understanding of how a tree diagram should be drawn.

Common problems were:

- not recognising that this was a two stage experiment;
- not writing the probabilities on tree branches;
- using replacement;
- drawing tree diagrams that were too small or untidy with writing that was difficult to decipher.

(ii) This part was done well and most candidates were able to successfully use their diagram from (c)(i) to find the correct probability.

Common problems were:

- adding and multiplying the probabilities incorrectly;
- finding only P(*RG*) or P(*GR*).

http://www.boardofstudies.nsw.edu.au/hsc_exams/2014/pdf_doc/2014-maths.pdf