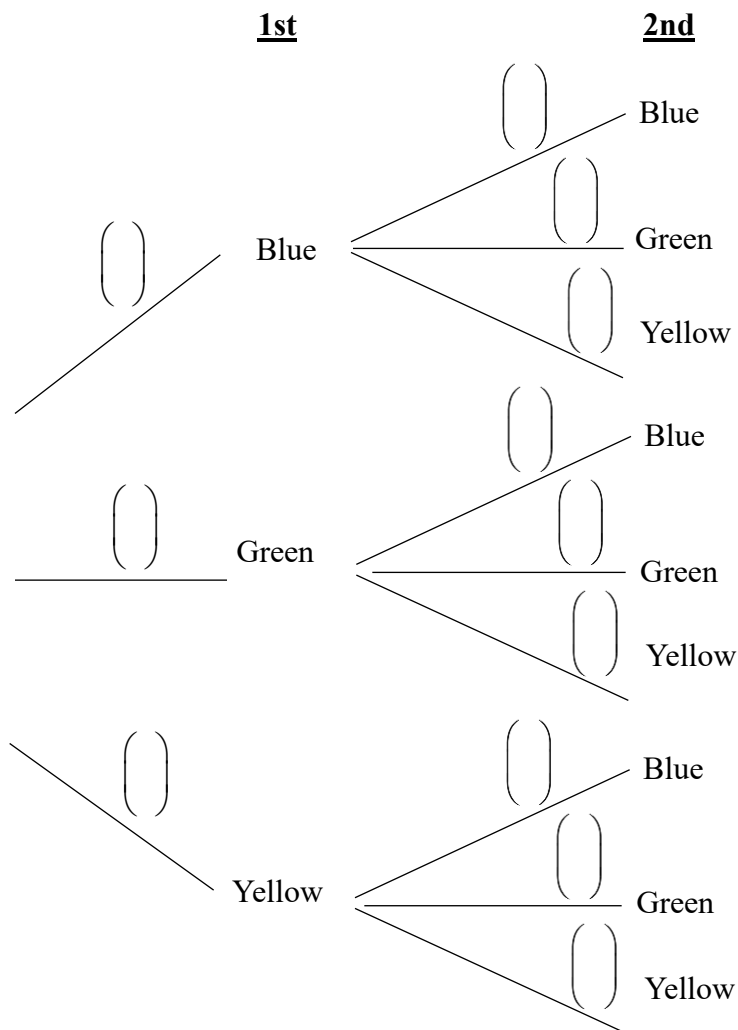


2024 Mathematics WA 2 Practice

Topic: Probability (Chap 2.4: From past year XMS WA papers)

- 1 In a school examination, the probabilities that Daisy will pass Mathematics, English and Science are $\frac{7}{8}$, $\frac{7}{10}$ and $\frac{4}{5}$ respectively. Find the probability that Daisy
- (a) passes Science only,
 - (b) fails exactly two subjects,
 - (c) passes at least one subject.
- 2 A bag contains 6 blue, 5 green and 7 yellow marbles. A child is allowed to pick two marbles from the bag, one after another without replacement.
- (a) Complete the tree diagram below.



(b) Find the probability that the two marbles picked are

- (i) of the same colour,
- (ii) exactly one green and one yellow,
- (iii) not green.

(c) If a third marble is picked, find the probability that all three marbles are green.

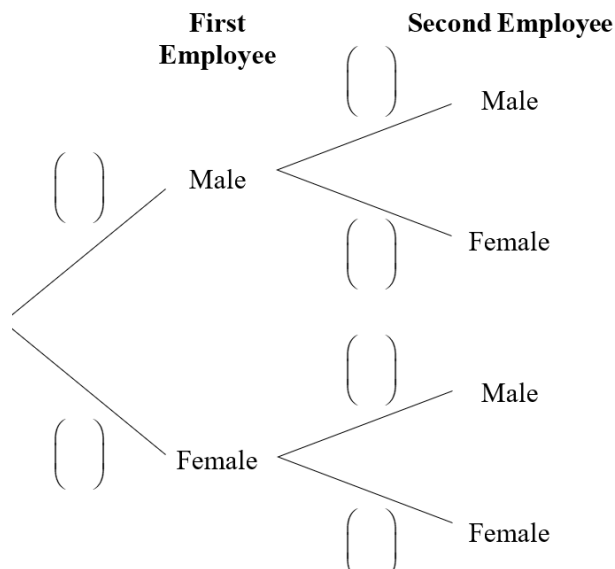
3 Danish only walks or cycles to school.

The probability that Danish walks to school is 0.6. If he walks to school, the probability that he is late is 0.05. If he cycles to school, the probability that he is late is 0.02.

Find the probability that Danish is **not** late for school.

4 There are 24 male employees and 21 female employees in a company. Two of the employees are selected at random to represent the company at an event.

(a) Complete the tree diagram.



(b) Find, as a fraction in its simplest form, the probability that

- (i) both employees selected are of the same gender,
- (ii) one male and one female employee are selected.

Answer Key

1a. $\frac{3}{100}$ b. $\frac{1}{10}$ c. $\frac{397}{400}$

2bi. $\frac{46}{153}$ ii. $\frac{35}{153}$ iii. $\frac{26}{51}$ iv. $\frac{5}{408}$

3. 0.962

4a. 4bi. $\frac{27}{55}$ 4bii. $\frac{28}{55}$

