

Frequency Trees

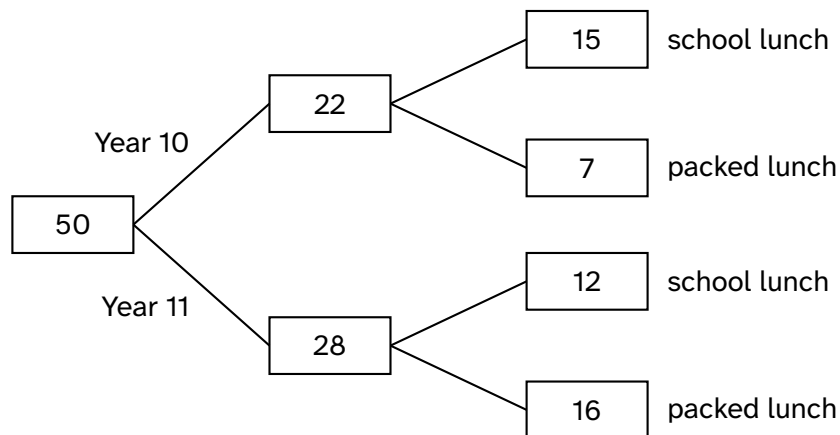
For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **28**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** The frequency tree shows information about the lunches of 50 students.



- (a) How many of the students have a packed lunch?

.....
(1)

- (b) One of these students is chosen at random.
Write down the probability that this student is in Year 11 and has a school lunch.

.....
(1)

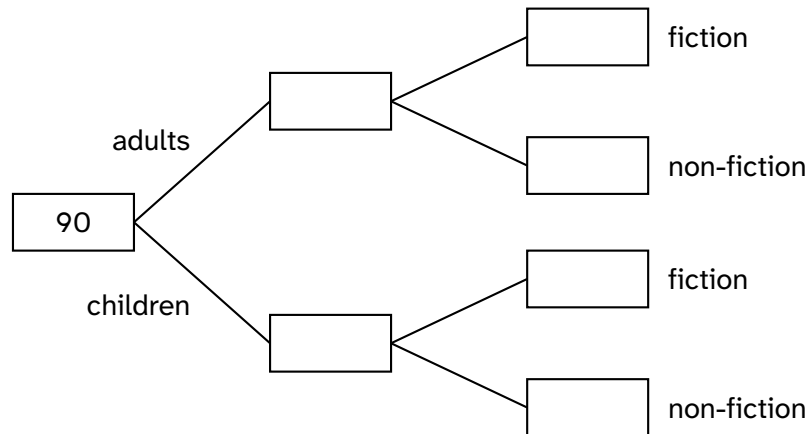
- (c) What fraction of the Year 11 students have a packed lunch?

.....
(1)

(Total for Question 1 is 3 marks)

- 2** A library lent 90 books on one day.
 Each book was fiction or non-fiction.
 52 of the books were lent to adults. The rest were lent to children.
 29 of the books were non-fiction.
 18 of the books lent to adults were non-fiction.

(a) Use this information to complete the frequency tree.



(3)

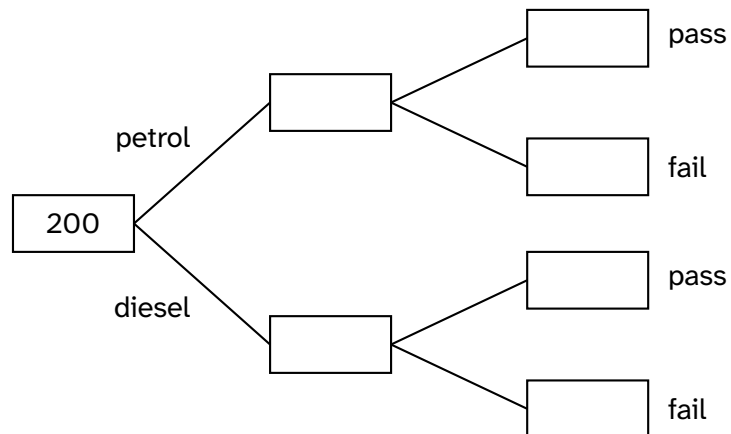
- (b) One of these books is chosen at random.
 Find the probability that it is a fiction book.

(2)

(Total for Question 2 is 5 marks)

- 3** A garage tested 200 cars.
 $\frac{3}{5}$ of the cars were petrol cars. The rest were diesel cars.
 25% of the petrol cars failed the test.
 64 of the diesel cars passed the test.

(a) Complete the frequency tree.



(3)

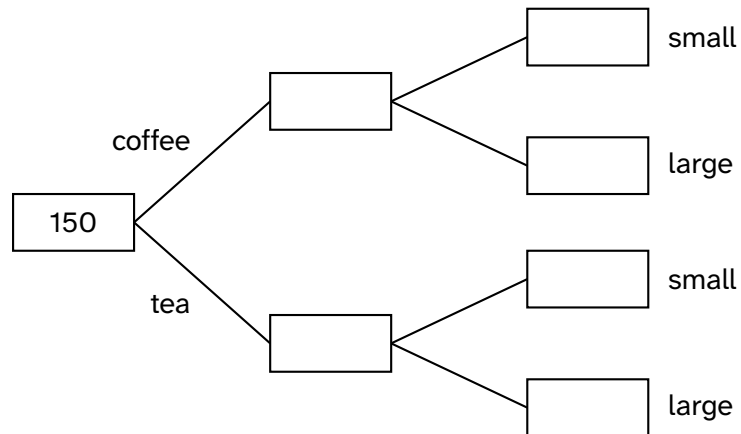
(b) What percentage of all the cars failed?

..... %
 (2)

(Total for Question 3 is 5 marks)

- 4 A café sold 150 hot drinks one morning.
 Each drink was coffee or tea, and was small or large.
 96 of the drinks were coffee.
 $\frac{5}{8}$ of the coffees were large.
 42 of the drinks were small.

(a) Use this information to complete the frequency tree.



(3)

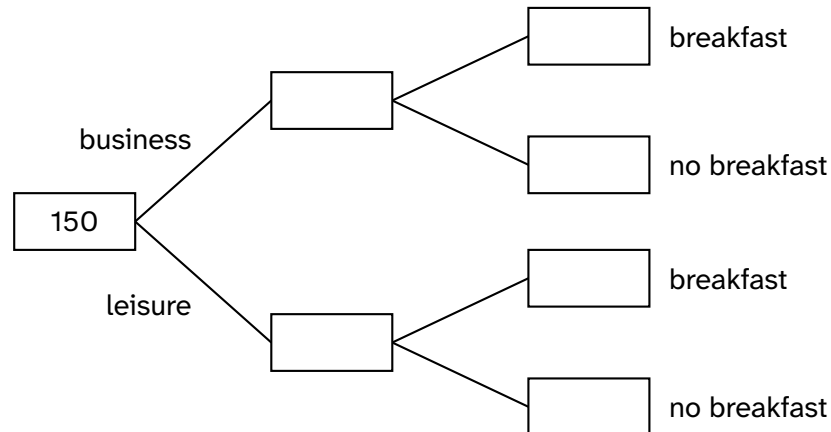
- (b) One of the large drinks is chosen at random.
 Find the probability that it is a tea.

(2)

(Total for Question 4 is 5 marks)

- 5** A hotel has 150 guests.
 84 of the guests are on business. The rest are on leisure.
 $\frac{2}{3}$ of the leisure guests had breakfast.
 33 of the business guests did not have breakfast.

(a) Complete the frequency tree.



(3)

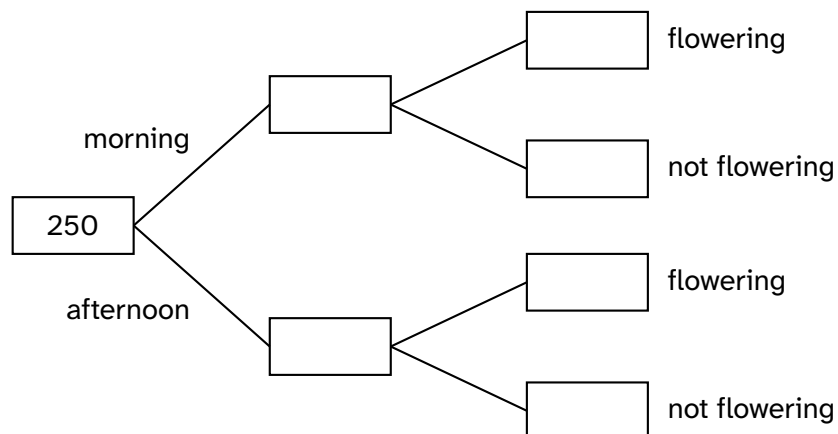
- (b) One of the guests is chosen at random.
 Work out the probability that this guest had breakfast.

.....
 (2)

(Total for Question 5 is 5 marks)

- 6** A garden centre sold 250 plants on Saturday.
 40% of the plants were sold in the morning. The rest were sold in the afternoon.
 $\frac{3}{5}$ of the plants sold in the morning were flowering plants.
 90 of the plants sold in the afternoon were flowering plants.

(a) Use this information to complete the frequency tree.



(3)

(b) What percentage of the flowering plants were sold in the afternoon?

..... %
 (2)

(Total for Question 6 is 5 marks)