JP Maths Revision

Attempt the paper before watching the solutions https://www.youtube.com/@JPMathsRevision

Foundation Tier

Frequency Trees

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The marks for **each** question are shown in brackets- *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

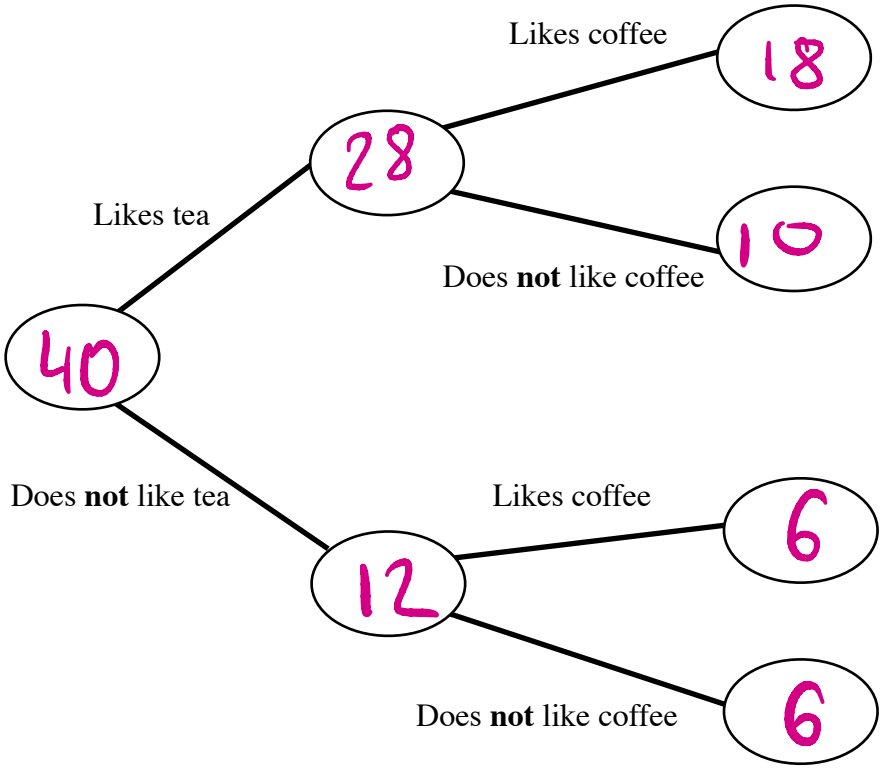
1. 40 people were asked whether they like tea and coffee.

28 of the people like tea.

Of the people who like tea, 18 also like coffee.

Of the people who do not like tea, 6 like coffee.

(a) Complete the frequency tree.



(3)

(b) How many people like coffee?

$6+18=24$

24

.....

(1)

(c) How many people like neither tea nor coffee?

6

.....

(1)

(Total for Question 1 is 5 marks)

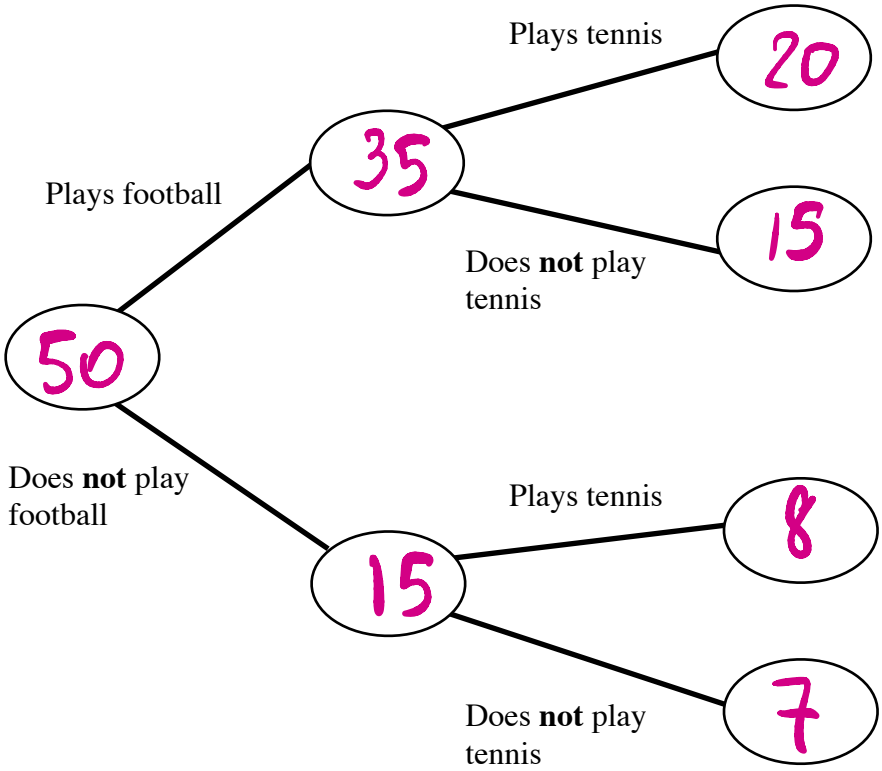
2. 50 students were asked whether they play football and whether they play tennis.

35 of the students play football.

Of the students who play football, 20 also play tennis.

Of the students who do not play football, 8 play tennis.

(a) Complete the frequency tree.



(3)

(b) How many students play neither sport?

7

.....

(1)

(c) How many students play tennis?

20 + 8 = 28

28

.....

(1)

(Total for Question 2 is 5 marks)

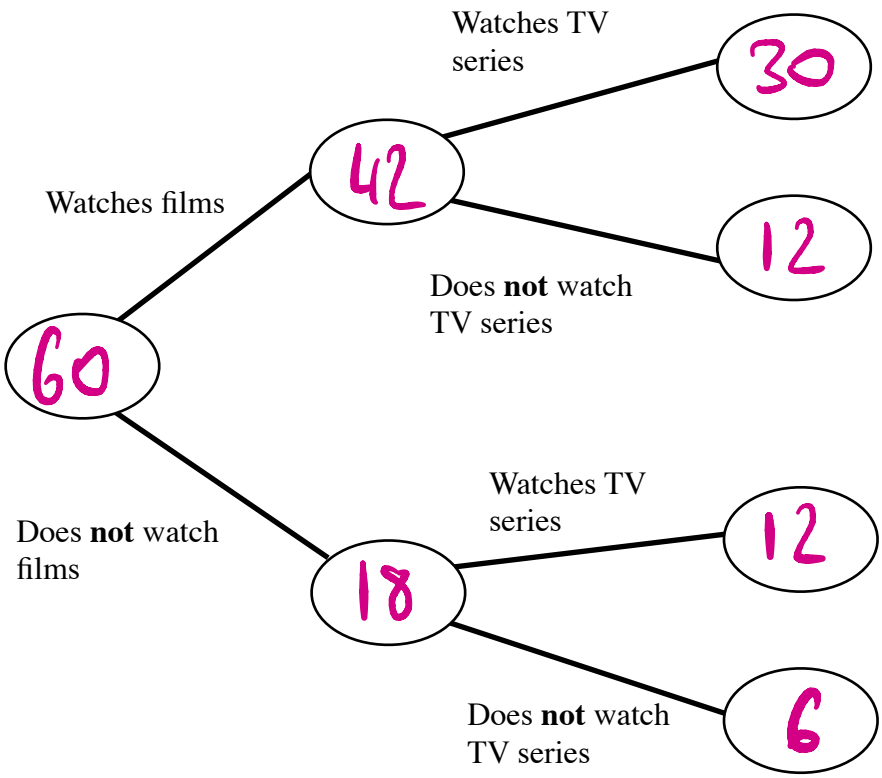
3. 60 people were asked whether they watch films and whether they watch TV series.

42 of the people watch films.

Of the people who watch films, 30 also watch TV series.

Of the people who do not watch films, 12 watch TV series.

(a) Complete the frequency tree.



(3)

(b) Find the probability that a randomly selected person watches films.

$\frac{42}{60}$

.....

(1)

(c) Find the probability that a person watches TV series.

$30 + 12 = 42$

$\frac{42}{60}$

.....

(1)

(Total for Question 3 is 5 marks)

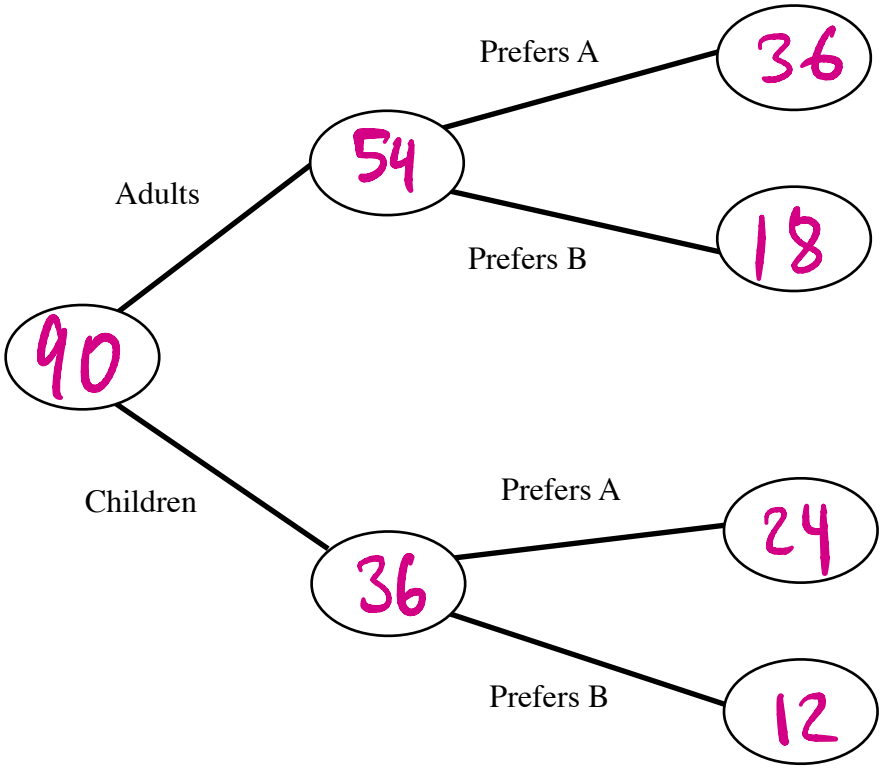
4. A company is testing two new flavours of crisps, flavour A and flavour B.

They ask 90 people which flavour they prefer.

54 of the people asked were adults.

36 of the 60 people who prefer flavour A are adults.

(a) Complete the frequency tree.



(3)

(b) How many children prefer flavour A?

$36 + 24 = 60$

60

.....

(1)

(c) Find the probability that a randomly selected person is a child who prefers flavour B.

$\frac{12}{90}$

.....

(1)

(Total for Question 4 is 5 marks)

5. A survey is carried out with 120 people about whether they shop online and whether they use discount codes.

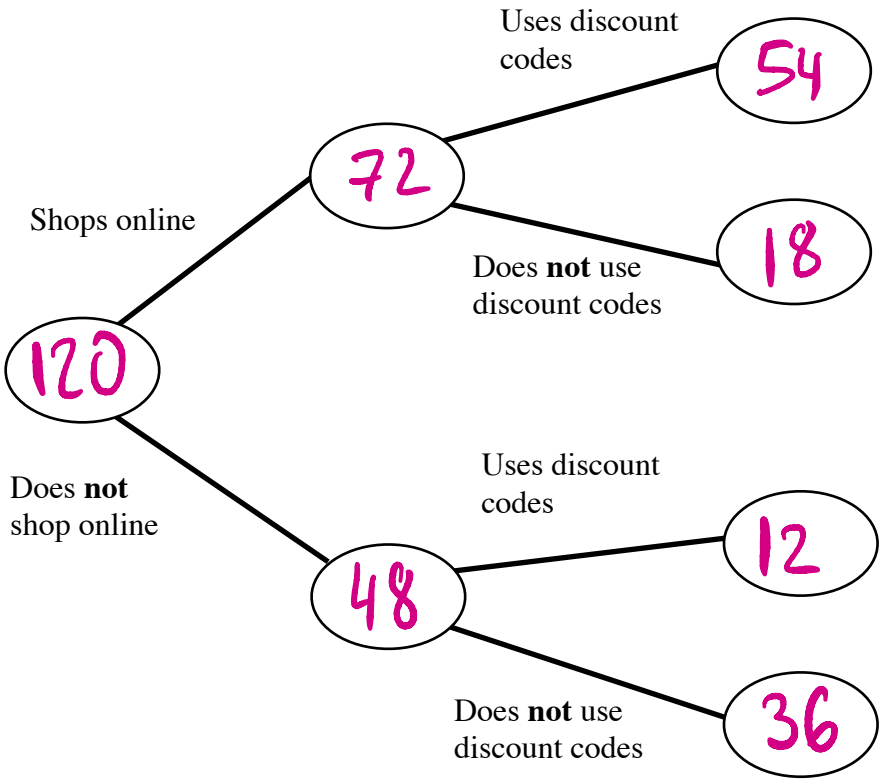
72 of the people shop online.

Of the people who shop online, 75% use discount codes.

Of the people who do not shop online, 25% use discount codes.

(a) Complete the frequency tree.

75% of 72
= 54



25% of 48
= 12

(3)

One of the people who use discount codes is chosen at random.

(b) Find the probability that this person shops online.

$\frac{54}{66}$

.....

(1)

(Total for Question 5 is 4 marks)

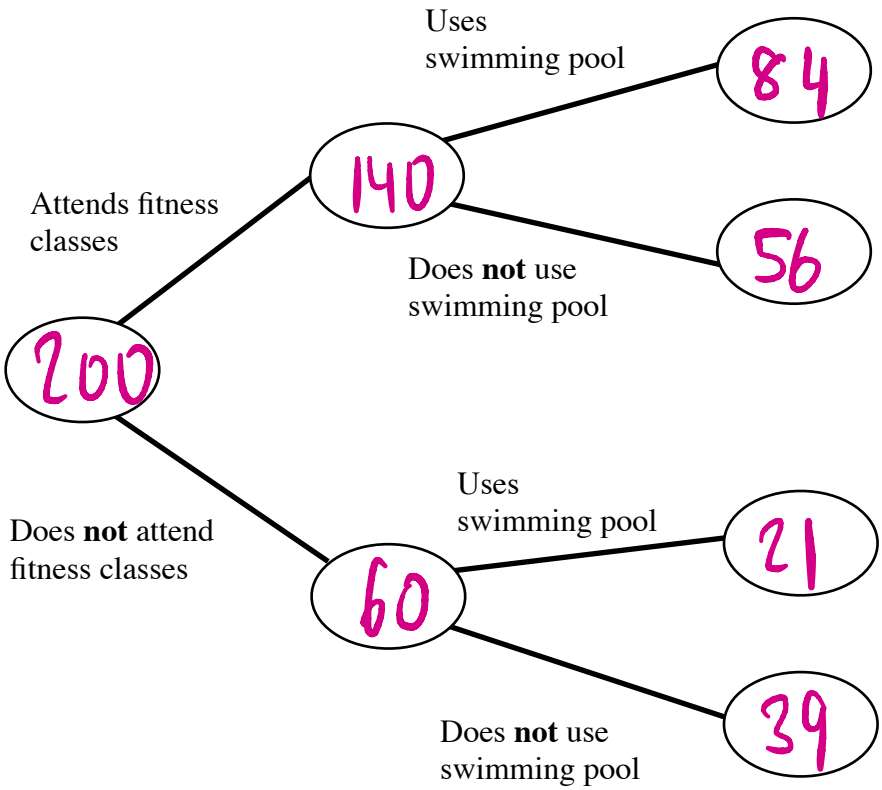
6. A gym surveys 200 members about whether they attend fitness classes and whether they use the swimming pool.

140 of the members attend fitness classes.

Of the members who attend fitness classes, $\frac{3}{5}$ use the swimming pool.

Of the members who do not attend fitness classes, 35% use the swimming pool.

(a) Complete the frequency tree.



(3)

One of the members who uses the swimming pool is chosen at random.

(b) Find the probability that this member attends fitness classes.

$\frac{84}{105}$

.....

(1)

(Total for Question 6 is 4 marks)