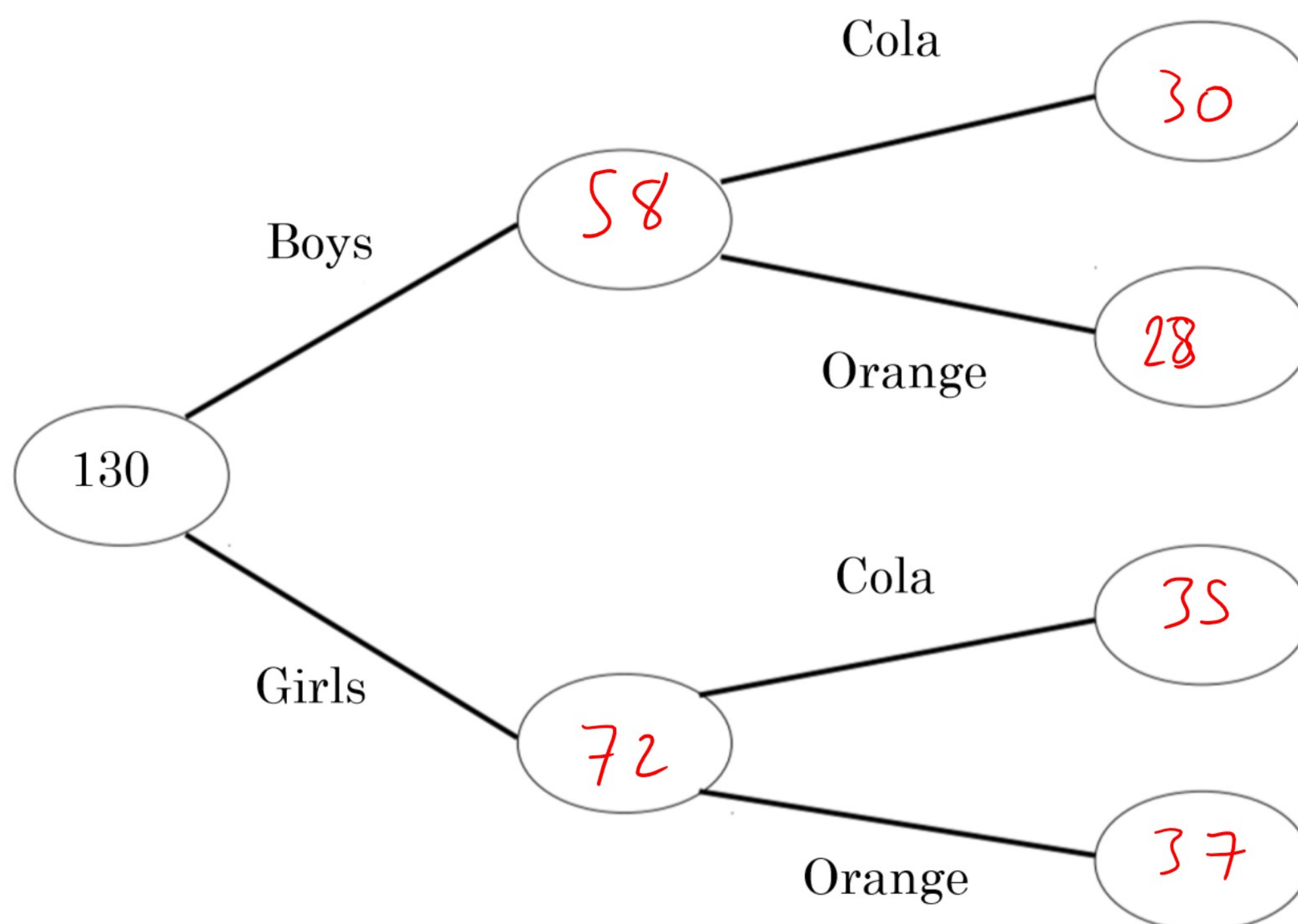




Frequency Trees Exam Practice

Q1. 130 pupils were asked if they prefer Cola or orange. 58 of the people were boys. 35 of the girls preferred Cola. 65 of the people preferred orange.



a) Use this information to complete the frequency tree.

Answer: _____
(3 marks)

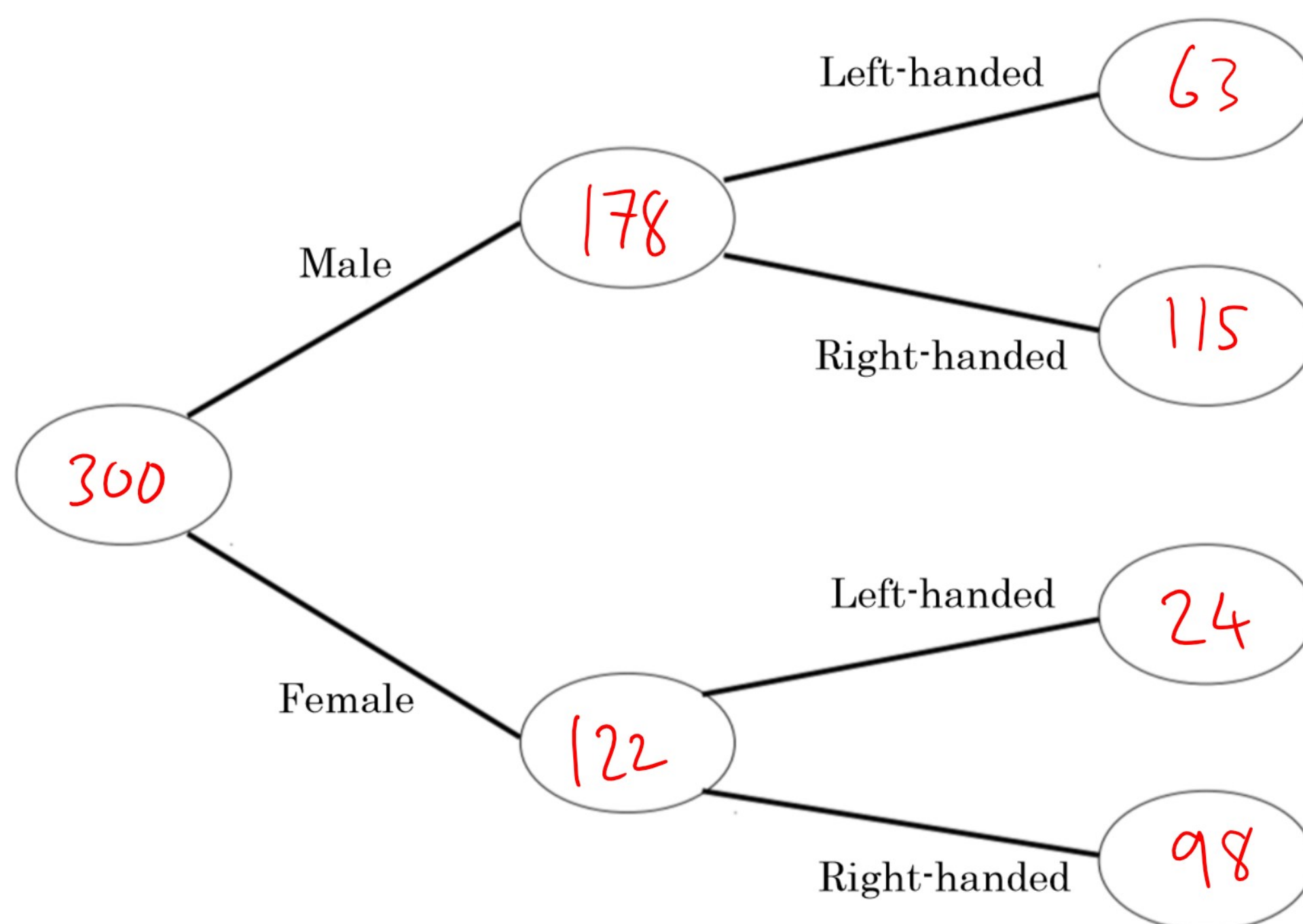
b) One of the 130 people is chosen at random. Write down the probability that this person is a girl, and preferred cola.

$$\frac{35}{130}$$

Answer: $\frac{7}{26}$ _____
(1 mark)



Q2. 300 people were asked if they were right or left handed. 178 of the people were men. 24 of the women were left-handed. 213 people were right-handed.



a) Use this information to complete the frequency tree.

Answer: _____
(3 marks)

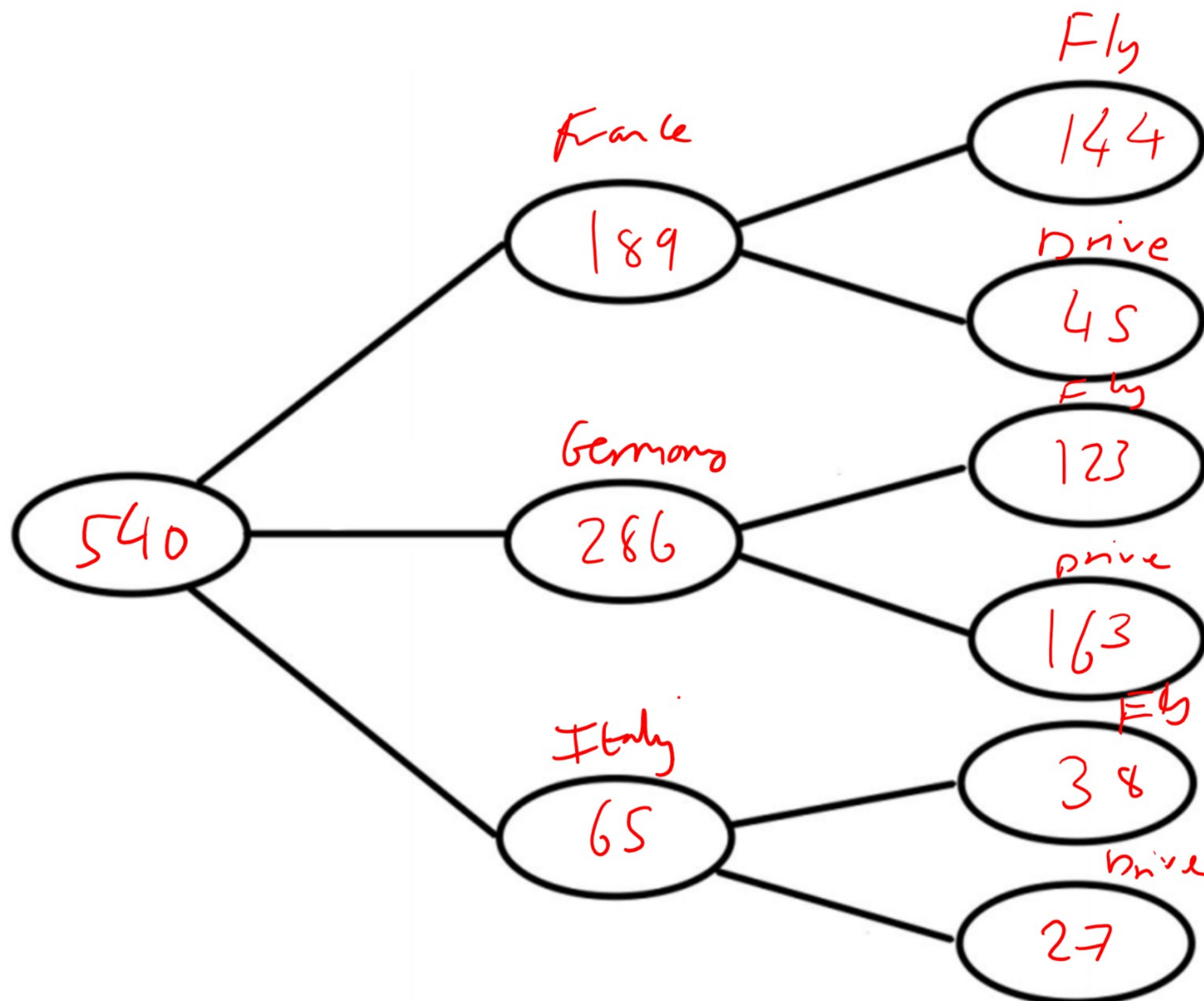
b) One of the 300 people is chosen at random. Write down the probability that this person is female and left-handed.

$$\frac{24}{300}$$

Answer: $\frac{2}{25}$ _____
(1 mark)



Q3. 540 people were asked how they got to France, Germany and Italy on holiday. 30 drove to Germany, whilst 38 flew to Italy. 35% of the people went France, whilst 286 people went to Germany. 123 flew to Germany and 45 drove to France.



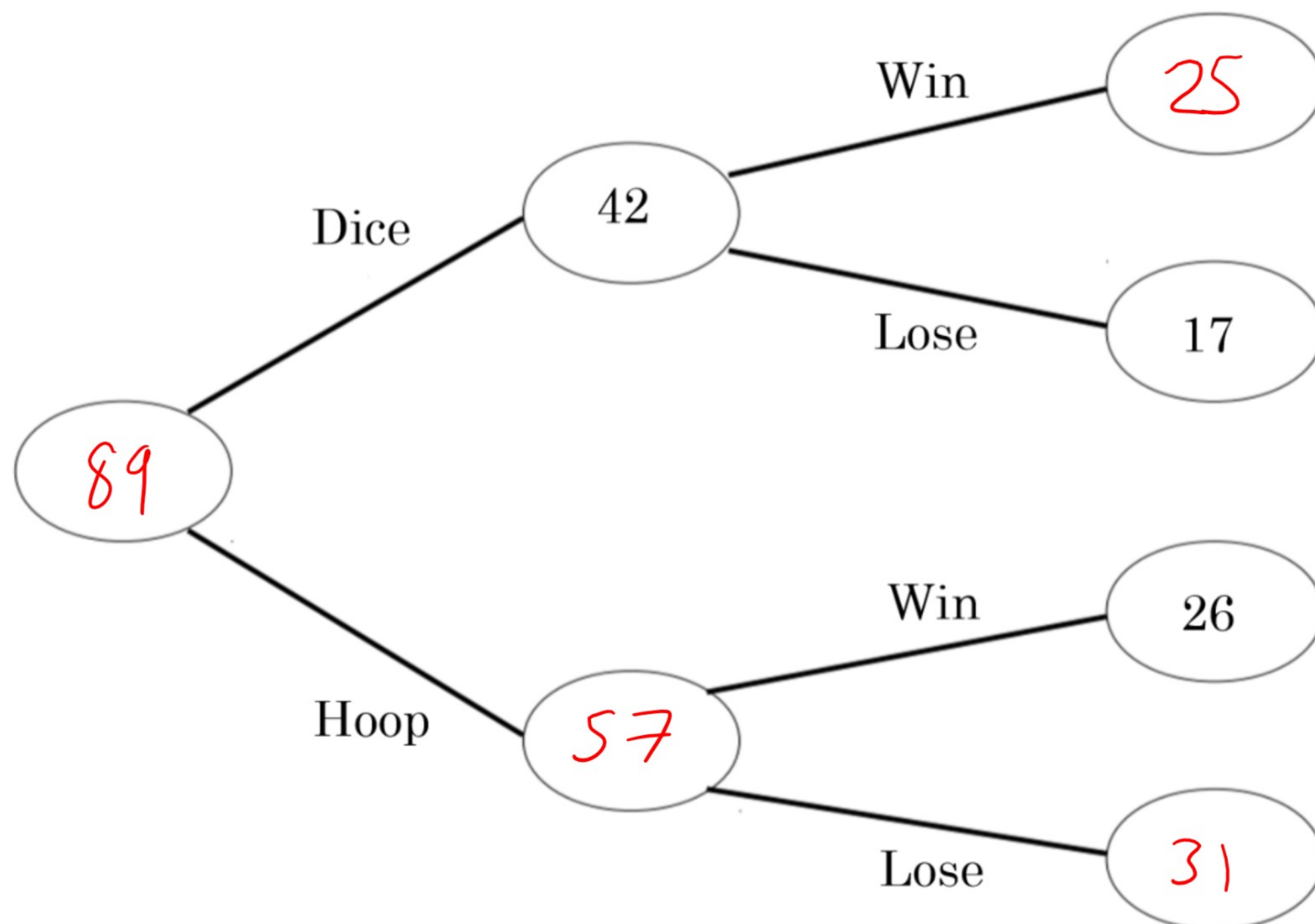
Use this information to label and complete the frequency tree.

Answer: _____

(4 marks)



Q4. At a fair stall, there are 2 games. In one they aim to roll a 6 on a dice, which costs £1 a go, and in the other they try to throw a hoop onto a target, which costs £2.50 a go. If they get a 6, they win £3, and if they get the hoop on target they win £5. One day, there were 89 players.



Complete the frequency tree, and work out whether the stall made a profit.

$$\begin{aligned} \text{Dice profit} &= 17 \times 1 - 25 \times 3 \\ &= -58 \end{aligned}$$

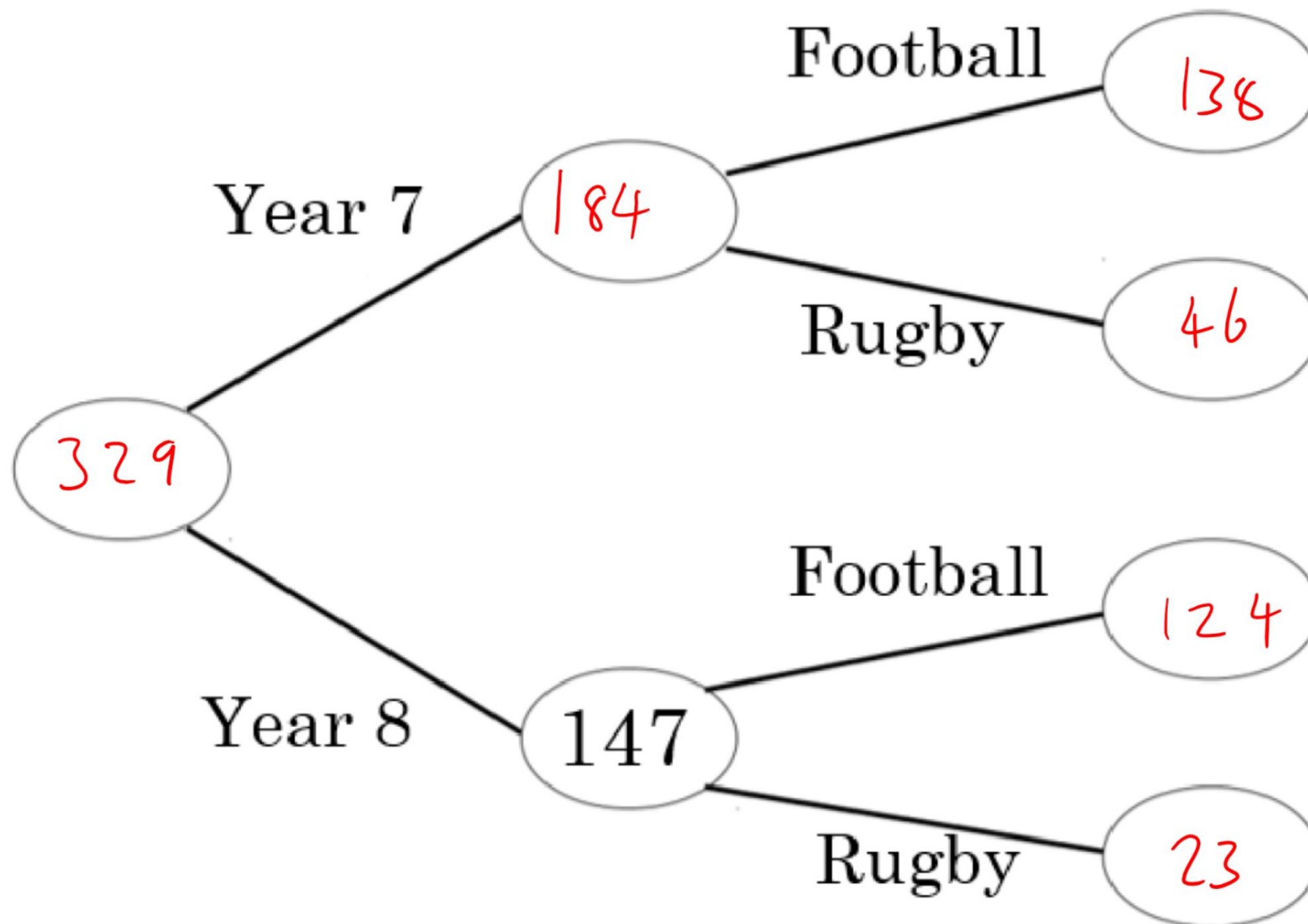
$$\begin{aligned} \text{Hoop profit} &= 31 \times 2.50 - 26 \times 5 \\ &= -52.5 \end{aligned}$$

$$\text{Total (loss) } \pounds 110.50$$

Answer: No (made a loss)
(4 marks)



- Q5. In winter, students must pick football, or rugby. In year 7, three times as many students chose football as those who choose rugby. There were 37 more year 7 students in total than those year 8 students, and there were half as many year 8's who preferred rugby compared to years 7's.



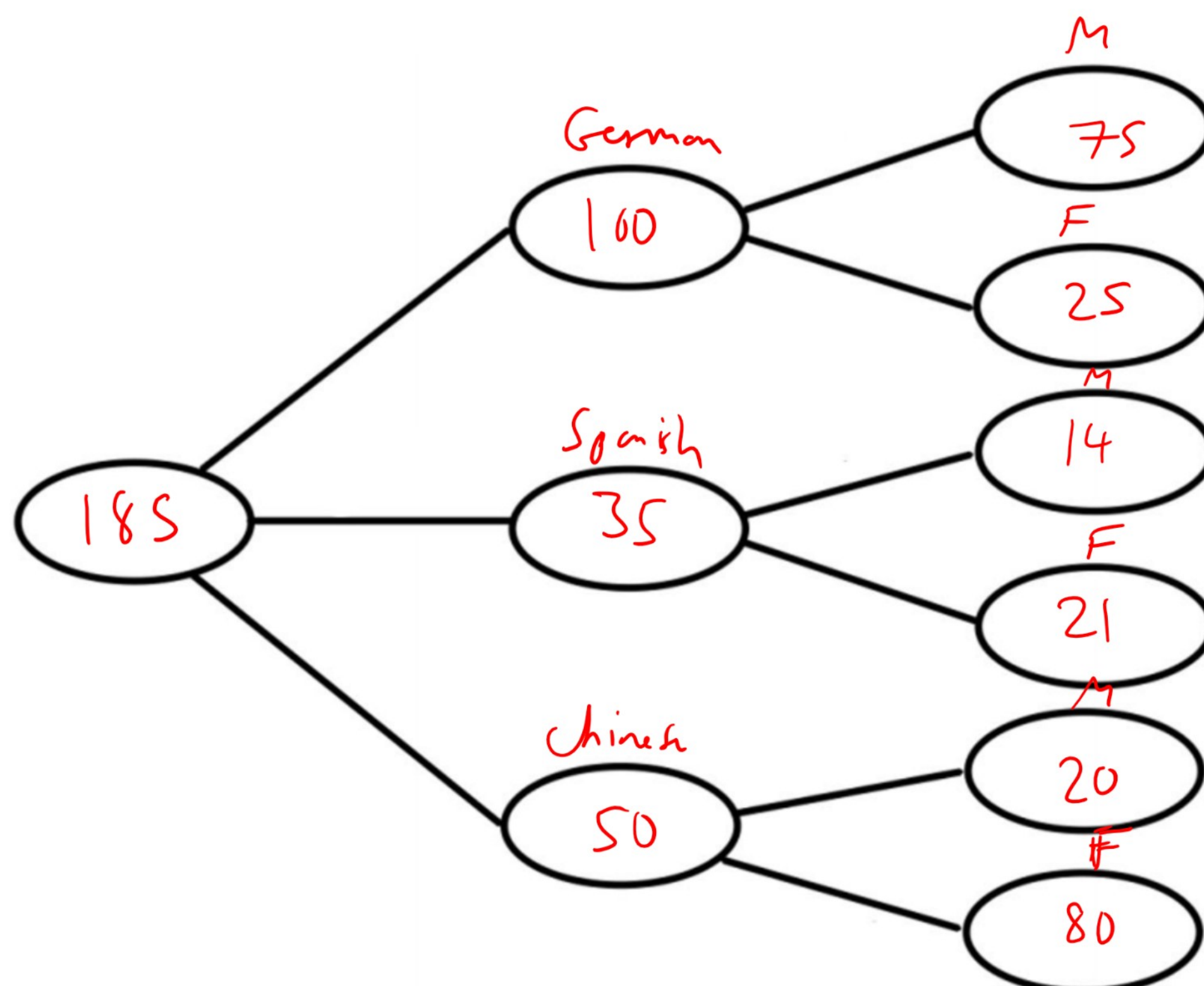
Use this information to complete the frequency tree.

Answer: _____

(4 marks)



Q6. In a 6th form, all 185 students study one language. Twice as many students study German than Chinese. 35 students study Spanish. Four times as many students studying Chinese are female than male. 40% of the students studying Spanish are male. $\frac{3}{4}$ of the students studying German are male.



Use this information to label and complete the frequency tree.

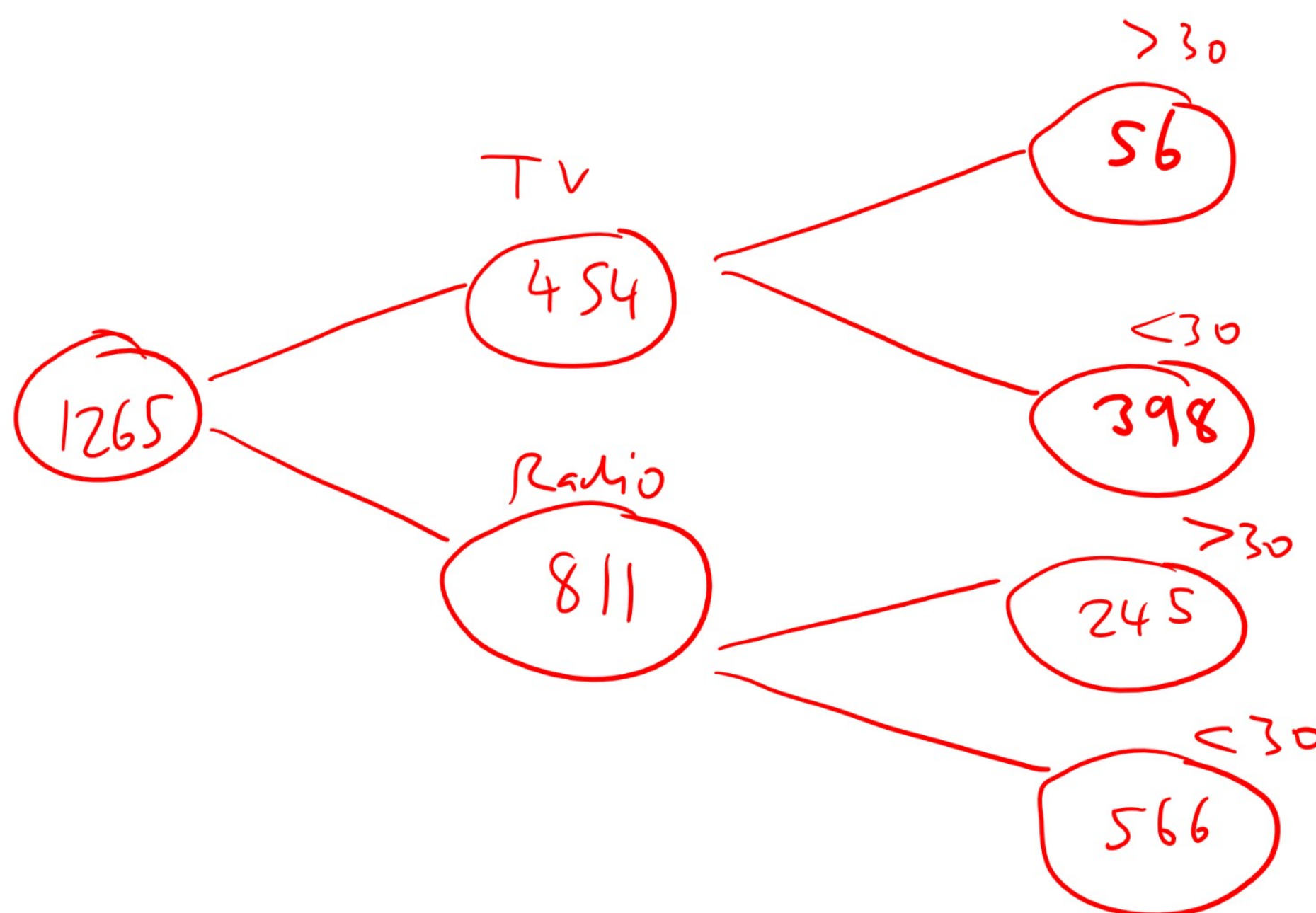
Answer: _____

(4 marks)



Q7. 1265 people were asked if they prefer TV or radio. 758 of the people were under 30. 245 of the over 30's preferred radio. 454 of the people preferred television. The total number of over 30's was 301.

a) Use this information to draw a frequency tree.



Answer: _____

(3 marks)

b) One of the under 30's people is chosen at random. Write down the probability that this person does not prefer television.

$$\frac{811}{398+566} = \frac{811}{964}$$

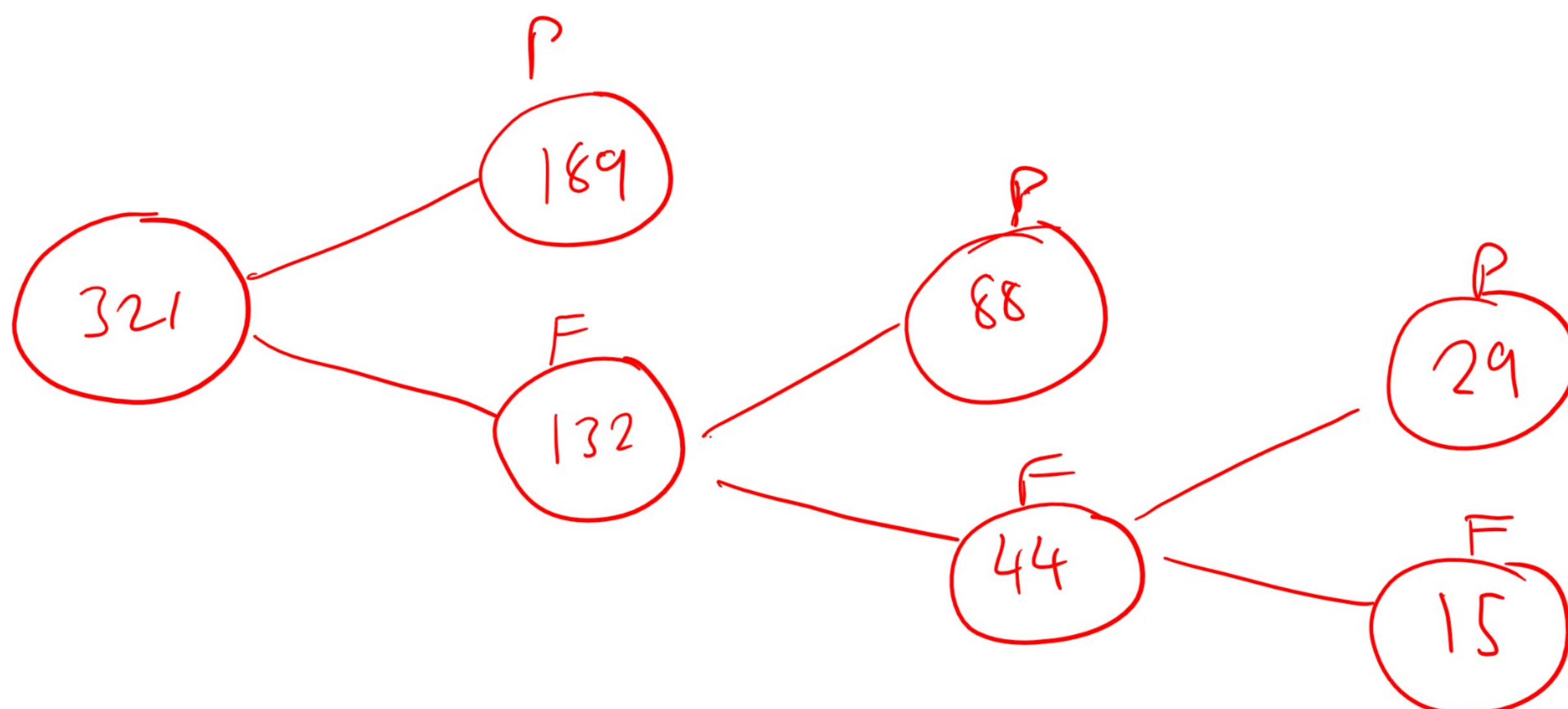
Answer: $\frac{811}{964}$ _____

(1 mark)



Q8. 321 people sat a driving test at a test centre. 189 passed the first time. Of those who failed on the first attempt, the pass to fail ratio for the second attempt was 2 : 1. On the third attempt, 15 people failed.

a) Use this information to draw a frequency tree.



Answer: _____
(3 marks)

b) How many people failed more than one test?

$$44 + 15 = 59$$

Answer: 59
(1 mark)

c) State why this tree might not be a realistic model of a driving test centre.

Some people will need more than 3 attempts to pass.

Answer: _____
(1 mark)