

Frequency Trees

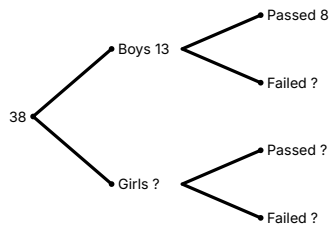
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NAME _____

DATE _____

- 1 38 students took a mock exam. The frequency tree shows some information about the results.

 EITHER PAPER 5 MARKS



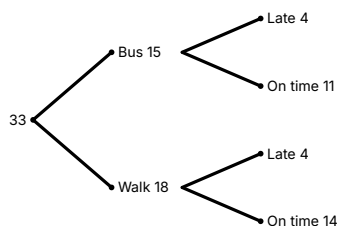
Altogether 25 of the students passed.

- (a) Complete the frequency tree.
(b) One of the 38 students is chosen at random.

Work out the probability that the student is a girl who passed.

- 2 33 students were asked how they travelled to school one morning and whether they were late. The frequency tree shows the results.

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- (a) One of these students is chosen at random.

Calculate the probability that the student walked and was late.

- (b) One of the students who came by bus is chosen at random.

Calculate the probability that this student was late.

3 79 members pay to use a gym.

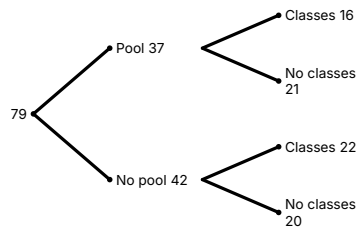
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They all have the standard membership for £22 per month.

Some also have the swimming pool pass for £17 extra per month.

Some also have the fitness classes pass for £4 extra per month.

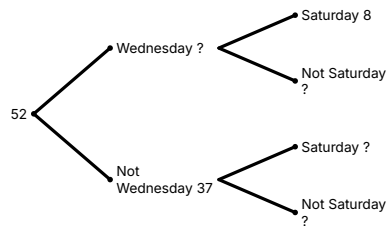
The frequency tree shows the number of members with each package.



In total, how much per month do the 79 members pay?

- 4 A walking group has 52 members. One week it ran a Wednesday walk and a Saturday walk. EITHER PAPER 3 MARKS

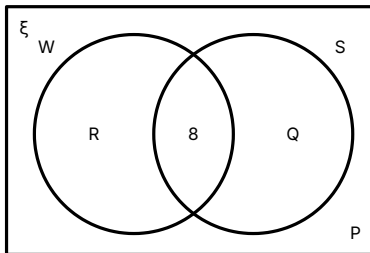
The frequency tree shows some information about the members who went on the walks.



27 members went on the Saturday walk.

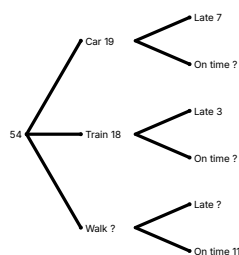
The Venn diagram is to show the same information. The number who went on both walks has been filled in from the tree. The other regions are labelled P, Q and R.

ξ = the 52 members, W = members who went on the Wednesday walk, S = members who went on the Saturday walk.



- (a) Work out the number of members in region P.
 - (b) Work out the number of members in region Q.
 - (c) Work out the number of members in region R.
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- 5 54 people were asked how they got to work one morning and whether they arrived late. The frequency tree shows some of the results. EITHER PAPER 5 MARKS



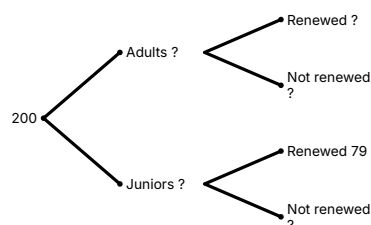
Altogether 16 of them arrived late.

- (a) Complete the frequency tree.
(b) One of the 54 people is chosen at random.

Work out the probability that this person went by train and was on time.

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- 6 A group of members were asked whether they had renewed. EITHER PAPER 5 MARKS

200 members were asked altogether.

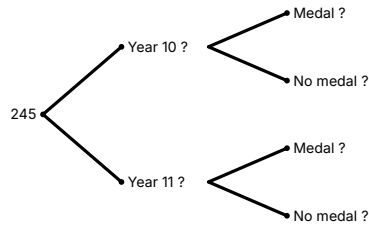


40% of the members were adults.

80% of the adults had renewed.

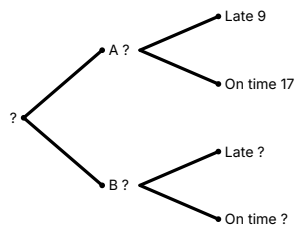
- (a) Work out how many of the members were juniors.
(b) Work out how many of the adults had renewed.
(c) One of the 200 members is chosen at random.

Calculate the probability that this person had renewed.



- There are 147 more Year 10 students than Year 11 students.
 - 53 of the students win a medal.
 - 12 of the students who win a medal are in Year 11.
- (a) Calculate the number of Year 10 students.
- (b) Use your answer to part (a) to complete the frequency tree.

Branch A is the students who came by bus, and branch B is the students who walked.



The number of students who walked is 2 times the number who came by bus.

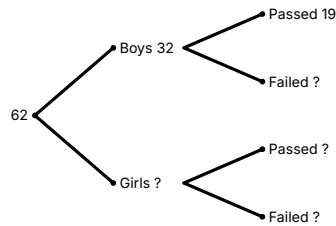
$\frac{1}{4}$ of the students who walked were late.

- (a) Calculate how many students came by bus.
- (b) Calculate how many students there were altogether.
- (c) Calculate the probability that a randomly chosen student was late.

Give your answer as a fraction in its simplest form.

- 9 62 students took a mock exam. The frequency tree shows some information about the results.

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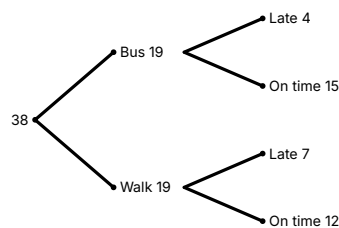
Altogether 37 of the students passed.

- (a) Complete the frequency tree.
(b) One of the 62 students is chosen at random.

Calculate the probability that the student is a girl who passed.

- 10 38 students were asked how they travelled to school one morning and whether they were late. The frequency tree shows the results.

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- (a) One of these students is chosen at random.
Calculate the probability that the student walked and was late.
(b) One of the students who came by bus is chosen at random.
Calculate the probability that this student was late.

1	(a) Girls 25, boys who failed 5, girls who passed 17, girls who failed 8 (b) $\frac{17}{38}$	2	(a) $\frac{4}{33}$ (b) $\frac{4}{15}$
3	£2519	4	(a) 18 (b) 19 (c) 7
5	(a) Walk 17, car and on time 12, train and on time 15, walk and late 6 (b) $\frac{5}{18}$	6	(a) 120 members (b) 64 (c) $\frac{143}{200}$
7	(a) 196 students (b) Year 10 196: Medal 41, No medal 155. Year 11 49: Medal 12, No medal 37	8	(a) 26 students (b) 78 students (c) $\frac{11}{39}$
9	(a) Girls 30, boys who failed 13, girls who passed 18, girls who failed 12 (b) $\frac{9}{31}$	10	(a) $\frac{7}{38}$ (b) $\frac{4}{19}$