**1.** The two-way table shows some information about the number of students in a school.

| | Year Group | | | Total |
|---|---|---|---|---|
| | **9** | **10** | **11** | |
| **Boys** | 149 | 133 | 125 | 407 |
| **Girls** | 154 | 123 | 147 | 424 |
| **Total** | 303 | 256 | 272 | 831 |

Complete the two-way table.

Pick at random

1) Prob(boy) $= \frac{407}{831}$

2) Prob(Yr 10) $= \frac{256}{831}$

3) If student is a girl, find prob she is Yr 10 $= \frac{123}{424}$

4) If student is a Yr 9, find prob student is a boy $= \frac{149}{303}$

**(3 marks)**

**2.** A factory makes three sizes of bookcase.
The sizes are small, medium and large.

Each bookcase can be made from pine or oak or yew.

The two-way table shows some information about the number of bookcases the factory makes in one week.

| | Small | Medium | Large | Total |
|---|---|---|---|---|
| Pine | 7 | 12 | 4 | 23 |
| Oak | 10 | 16 | 8 | 34 |
| Yew | 3 | 8 | 2 | 13 |
| Total | 20 | 36 | 14 | 70 |

Complete the two-way table. Picked at random

i) P(Medium Oak) $= \frac{16}{70}$

ii) P(Yew) $= \frac{13}{70}$

iii) P(Small) $= \frac{20}{70}$

iv) Given pick is a Yew find prob it is medium $= \frac{8}{13}$

**(3 marks)**

**3.** The two-way table gives some information about how 100 children travelled to school one day.

| | Walk | Car | Other | Total |
|---|---|---|---|---|
| **Boy** | 15 | 25 | 14 | 54 |
| **Girl** | 22 | 8 | 16 | 46 |
| **Total** | 37 | 33 | 30 | 100 |

(a) Complete the two-way table.

**(3)**

One of the children is picked at random.

(b) Write down the probability that this child walked to school that day.

$\frac{37}{100}$

**(1)**

One of the girls is picked at random.

(c) Work out the probability that this girl did **not** walk to school that day.

$\frac{24}{46}$

**(2)**

**(6 marks)**

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**4.** The two-way table gives some information about how 100 children travelled to school one day.

| | Walk | Car | Other | Total |
|---|---|---|---|---|
| **Boy** | 15 | 25 | 14 | 54 |
| **Girl** | 22 | 8 | 16 | 46 |
| **Total** | 37 | 33 | 30 | 100 |

(a) Complete the two-way table.

**(3)**

One of the children is picked at random.

(b) Write down the probability that this child walked to school that day.

$\frac{37}{100}$

**(1)**

**(4 marks)**

**8.** Felicity asked 100 students how they came to school one day.
Each student walked or came by bicycle or came by car.

49 of the 100 students are girls.
10 of the girls came by car.
16 boys walked.
21 of the 41 students who came by bicycle are boys.

Work out the total number of students who walked to school.

| | Walk | Car | Cycle | ToT |
|---|---|---|---|---|
| Boys | 16 | 14 | 21 | 51 |
| Girls | 19 | 10 | 20 | 49 |
| Total | 35 | 24 | 41 | 100 |

35

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**(4 marks)**

**9.** Janice asks 100 students if they like biology or chemistry or physics best.

38 of the students are girls.
21 of these girls like biology best.
18 boys like physics best.
7 out of the 23 students who like chemistry best are girls.

Work out the number of students who like biology best.

| | Bio | Che | Phy | Total |
|---|---|---|---|---|
| Boys | | | 18 | |
| Girls | 21 | 7 | 10 | 38 |
| Total | 49 | 23 | 28 | 100 |

49

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**(4 marks)**

**10.** 56 students were asked if they watched tennis yesterday.
20 of the students are boys.
17 girls watched tennis yesterday.
32 students did not watch tennis yesterday

One of these students is to be chosen at random.

Write down the probability that the student chosen will be a boy who watched tennis yesterday.
Give your answer as a fraction in its simplest form.

| | Watch | Didn't Watch | Total |
|---|---|---|---|
| Boys | 7 | 13 | 20 |
| Girls | 17 | 19 | 36 |
| Total | | 32 | 56 |

$\frac{7}{56} = \frac{1}{8}$

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**(4 marks)**