

1. Phillip is going to carry out a survey of the football teams supported by each of his friends.

In the space below, draw a suitable data collection sheet that Phillip could use.

(Total 3 marks)

2. Mathstown College has 500 students, all of them in the age range 16 to 19. The incomplete table shows information about the students.

Age (years)	Number of male students	Number of female students
16	50	30
17	60	40
18	76	54
19		

A newspaper reporter is carrying out a survey into students' part-time jobs. She takes a sample, stratified both by age and by gender, of 50 of the 500 students.

- (a) Calculate the number of 18 year old male students to be sampled.

.....

(3)

In the sample, there are 9 female students whose age is 19 years.

- (b) Work out the least number of 19 year old female students in the college.

.....

(2)

A newspaper photographer is going to take photographs of two students from Mathstown College.

He chooses

one student at random from all of the 16 year old students and
one student at random from all of the 17 year old students.

- (c) Calculate the probability that he will choose two female students.

.....

(3)

(Total 8 marks)

3. The table gives information about the number of girls in each of four schools.

School	A	B	C	D	Total
Number of girls	126	82	201	52	461

Jenny did a survey of these girls.

She used a stratified sample of exactly 80 girls according to school.

Work out the number of girls from each school that were in her sample of 80.
Complete the table.

School	A	B	C	D	Total
Number of girls					80

(Total 3 marks)

01. Teams

Tally

Frequency

3

Tally chart with 3 headings

B1 cao for "Teams" or list of teams (3+)

B1 cao for tally or tally marks

B1 cao for frequency or total 9 (numerically or graphically)

[3]

02. (a) 8

3

$$\frac{50}{500} \times 76$$

$$M1 \text{ for } \frac{50}{500} \times 76 \text{ oe}$$

A2 cao

(A1 for 7.6)

- (b) 86

2

$$9 \times 10 \text{ or } 90 \text{ or } 8.5 \times 10$$

M1 for 9 × 10 or 90 or 8.5 × 10 or 8.6 × 10 seen

A1 for either 86 or for 85

(c) $\frac{3}{20}$ 3

$$\frac{30}{80} \quad \frac{40}{100}$$

$$\frac{3}{8} \times \frac{2}{5}$$

B1 for $\frac{30}{80}$ or $\frac{40}{100}$ oe seen

M1 for multiplying only two probabilities or full relevant complete method

A1 $\frac{3}{20}$ oe

[8]

03. $x \div 461 \times 80$
21.86, 14.22, 34.88, 9.02
22 14 35 9

3

M1 for $\frac{x}{461} \times 80$ where $x = 126, 82, 201$ or 52

A2 for all 4 correct

(A1 for 3 correct or all 4 as decimals rounded or truncated)

[3]

01. Paper 8

There was a wide variety of responses including bar charts and pie charts but most candidates scored at least one mark on this question. Some candidates were unclear of the purpose of the survey attempting to collect data on the best player, the number of goals scored, etc. The total was the part that was most frequently omitted.

Paper 9

Nearly all candidates gained at least 1 mark, but few gained full marks. One mark was nearly always earned for heading a column (row) with either football team or friend or for listing at least 3 teams or friends. Candidates recognising the need for totalling gained a 2nd mark and then failed to indicate how their collection sheet was to be completed. Many indicating tallies, or similar, then failed to show any totalling process.

- 02.** In part (a), most candidates applied a correct method but some left the answer as 7.4 or incorrectly rounded to 7. In part (b), a common wrong answer was 90. The final part of the question was answered well although some candidates failed to appreciate the need for a product and just gave the answer as $\frac{7}{18}$.
- 03.** Approximately three quarters of candidates gave a fully correct solution to this question. A number of candidates failed to gain any marks as their final answers were incorrect and no working was shown. Candidates should show their method as well as their uncorrected answers to be sure of gaining method marks, in the event that their final answers are not correct. The most common error made was to round the wrong values.