1. June/ 2022/Paper_41/No.2
    (a) Write down an example of continuous data.

    .... [1]

    (b) A class of 24 students takes a test.
         The table shows their marks.

Mark	6	7	8	9	10
Frequency	1	3	8	3	9

    (i) Find

         (a) the range,

         .... [1]

         (b) the mode,

         .... [1]

         (c) the median.

         .... [1]
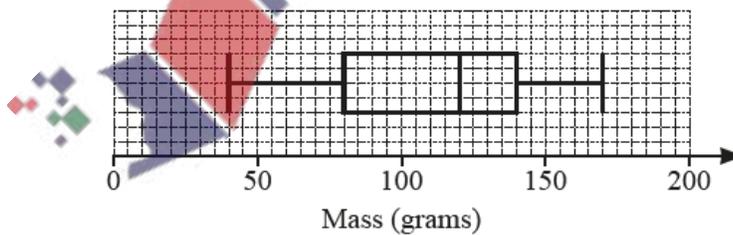
    (ii) A pie chart is drawn to show the information in the table.

          Calculate the sector angle for the number of students who scored 10 marks.

          .... [2]

    (c)

    The box plot shows information about the masses, in grams, of some apples.

    (i) Find the median.

         .... g [1]

    (ii) Find the range.

         .... g [1]

    (iii) Find the interquartile range.

         .... g [1]

1

(d) (i) The time, t minutes, spent on homework in one week by each of 200 students is recorded.
The table shows the results.

Time (t minutes)	$40 < t \leqslant 60$	$60 < t \leqslant 80$	$80 < t \leqslant 90$	$90 < t \leqslant 100$	$100 < t \leqslant 150$
Frequency	6	10	70	84	30

Calculate an estimate of the mean.

.... min [4]

(ii) A new table with different class intervals is completed.

Time (t minutes)	$40 < t \leqslant 90$	$90 < t \leqslant 150$
Frequency	86	114

On a histogram the height of the bar for the $40 < t \leqslant 90$ interval is 17.2 cm.

Calculate the height of the bar for the $90 < t \leqslant 150$ interval.

.... cm [2]

2.

(a)
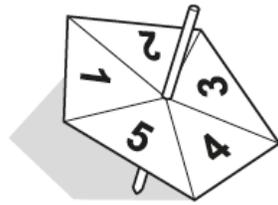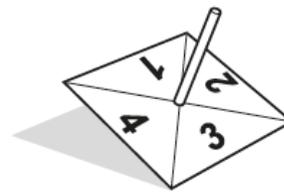
Spinner A   Spinner B

The diagram shows two fair spinners.
Spinner A is numbered 1, 2, 3, 4, 5 and spinner B is numbered 1, 2, 3, 4.
The two spinners are spun and the two scores are added.

(i) Draw a possibility diagram to show all the possible totals.

[2]

(ii) Find the probability that the total of the two numbers is

(a) 7,

.... [1]

(b) a square number,

.... [1]

(c) less than 10.

.... [1]

(iii) The two spinners are spun 60 times.

Calculate the expected number of times the total is 7.

.... [1]

(b) When a coin is tossed it is equally likely to show heads or tails.
When a die is rolled it is equally likely to show a 1, 2, 3, 4, 5 or 6.

(i) The die is rolled.

Find the probability that the die shows 4.

.... [1]

(ii) The coin is tossed and the die is rolled.

(a) Find the probability that the coin shows tails **and** the die shows 4.

.... [2]

(b) Find the probability that the coin shows tails **or** the die shows 4.

.... [2]

(c) When the weather is fine, the probability that Jodie goes swimming is $\frac{4}{5}$.

When the weather is not fine, the probability that Jodie goes swimming is $\frac{1}{10}$.

The probability that the weather will be fine tomorrow is $\frac{2}{3}$.

Find the probability that Jodie goes swimming tomorrow.

.... [3]