Edexcel GCSE
Mathematics (Linear) – 1MA0

PIE CHARTS

Materials required for examination
Ruler graduated in centimetres and
millimetres, protractor, compasses,
pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

Instructions

Use black ink or ball-point pen.
Fill in the boxes at the top of this page with your name, centre number and candidate number.
Answer all questions.
Answer the questions in the spaces provided – there may be more space than you need.
Calculators may be used.

Information

The marks for each question are shown in brackets – use this as a guide as to how much time to
spend on **each** question.
Questions labelled with an **asterisk** (*) are ones where the quality of your written communication
will be assessed – you should take particular care on these questions with your spelling, punctuation
and grammar, as well as the clarity of expression.

Advice

Read each question carefully before you start to answer it.
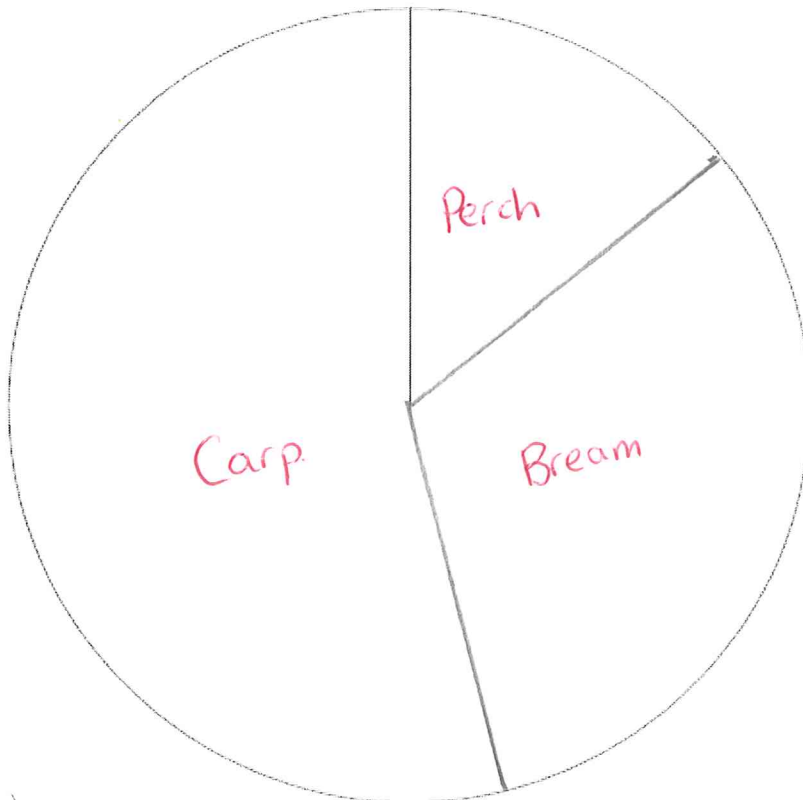Keep an eye on the time.
Try to answer every question.
Check your answers if you have time at the end.

1. The table gives information about the numbers of fish in a lake.

Fish	Frequency	Angle
Perch	10	50
Bream	23	115
Carp	39	195

$\frac{10}{72} \times 360$

$\frac{23}{72} \times 360$
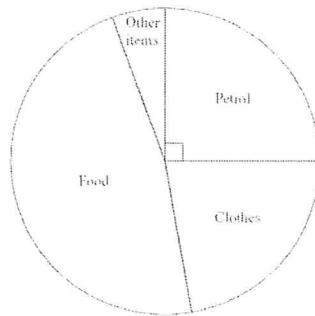
$\frac{39}{72} \times 360$

Draw an accurate pie chart to show this information.

Perch

Carp

Bream

(4 marks)

2. Mrs Yusuf went shopping at a superstore.

The pie chart shows information about the money she spent on petrol, on clothes, on food and on other items.

(a) What did she spend most money on?

Food.

(1)

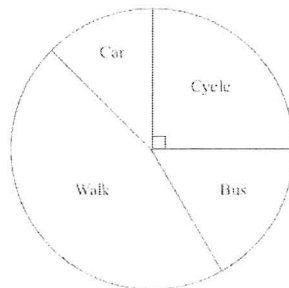(b) What fraction of the money she spent was on petrol?

$\frac{1}{4}$

(1)

Mrs Yusuf spent £25 on petrol at the superstore.

(c) In total, how much money did she spend?

£ 100

(2)

(4 marks)

3. Harry asked each student in his class how they travelled to school that day.
He used the results to draw this pie chart.

(a) How did most of the students travel to school?

Walk

(1)

Harry asked a total of 24 students.

(b) Work out the number of students who cycled to school.

6

(2)

(3 marks)

4. Sally recorded the musical instrument played by each of 30 students in the school orchestra. The table shows her results.

Musical instrument	Frequency	Angle.
Clarinet	5	60
Guitar	12	144
Flute	7	84
Drums	6	72

30

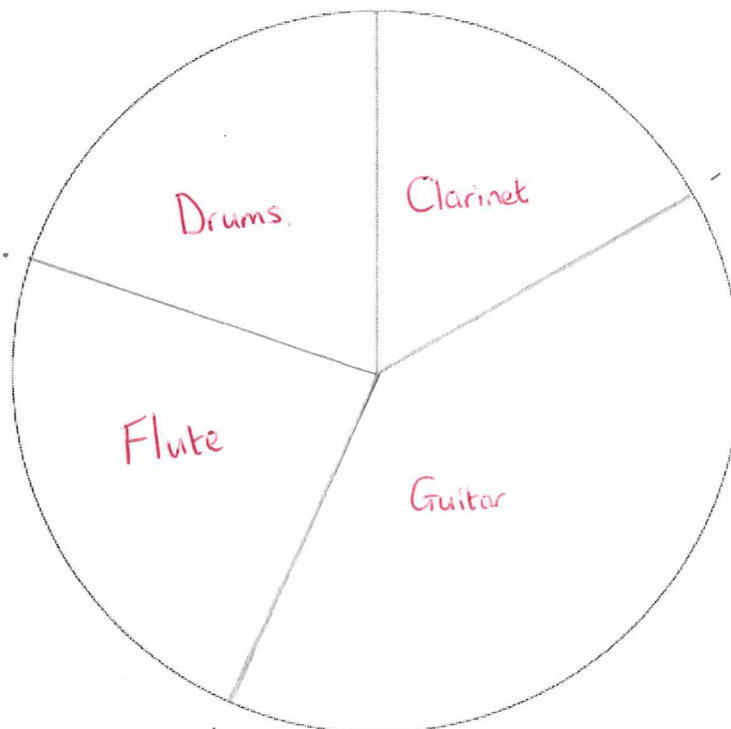One of the students in the school orchestra is chosen at random.

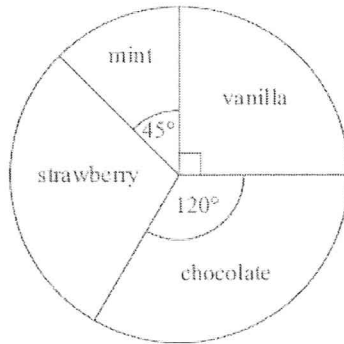(a) Find the probability that this student plays the flute.

$\frac{7}{30}$

(2)

(b) Draw an accurate pie chart to show the information shown in the table.

(4)

(6 marks)

5. Some children were asked to name their favourite flavour of ice cream.
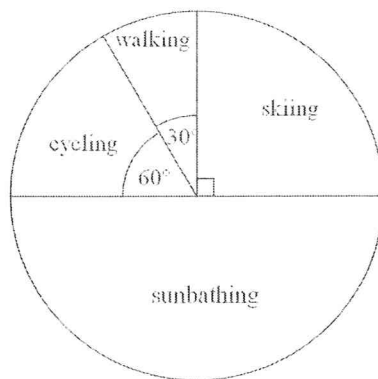The pie chart and table show some information about their answers.

Use the pie chart to complete the table.

Flavour	Number of children	Angle of sector
vanilla	12	90°
mint	6	45°
strawberry	14	105
chocolate	16	120°

(3 marks)

6. Noreen carries out a survey of some students.
The pie chart shows some information about their favourite holiday.

5 students said that walking is their favourite holiday.

(a) How many students took part in the survey?

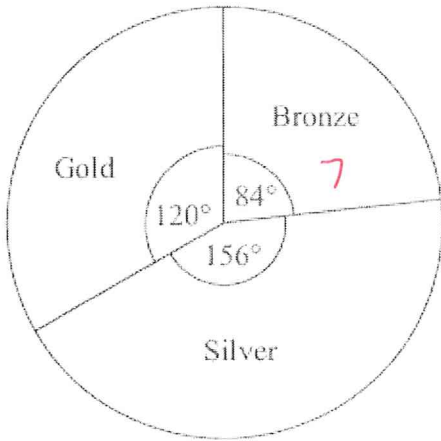.............60.................

(2)

Noreen chooses one of these students at random.

(b) Write down the probability that this student's favourite holiday is cycling.

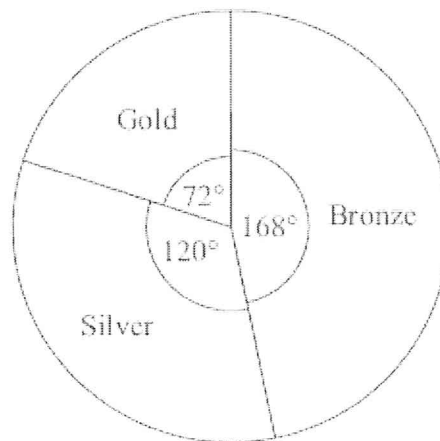$\frac{60}{360} = \frac{1}{6}$

(1)

(3 marks)

7.   The pie charts show some information about the numbers of medals won by Germany and by the Russian Federation in the 2010 Winter Olympics.

Medals won by Germany

Medals won by the Russian Federation

Germany won 7 bronze medals.

(a) How many gold medals did Germany win?

........................10....................../...
                                                                   (2)

(b) Graham says,

      'The pie charts show that Germany won more gold medals than the Russian Federation'.

      Is Graham right? ...No............

      You must explain your answer.

      You need to know a number of medals for Russian Federation
      ....
                                                                   (1)

                                                                   (3 marks)

8. The table gives some information about the birds Paula sees in her garden one day.

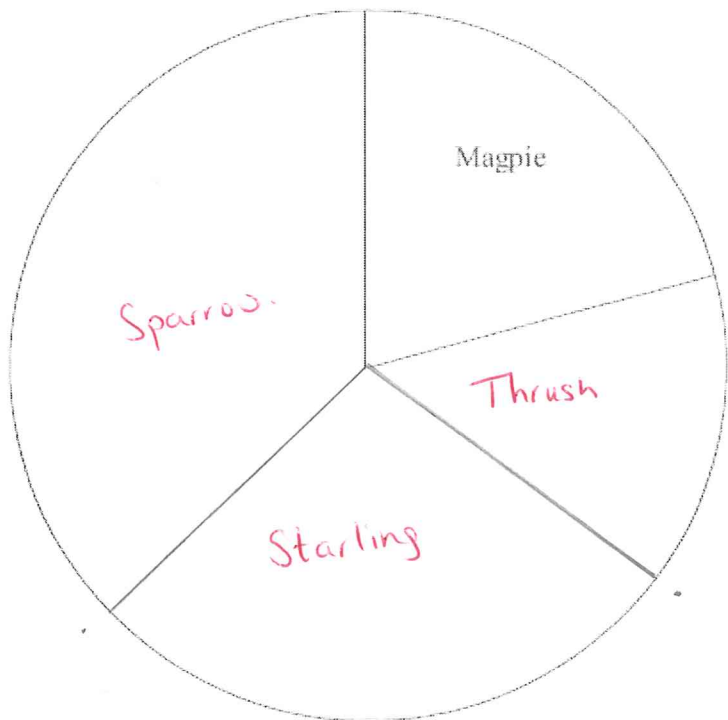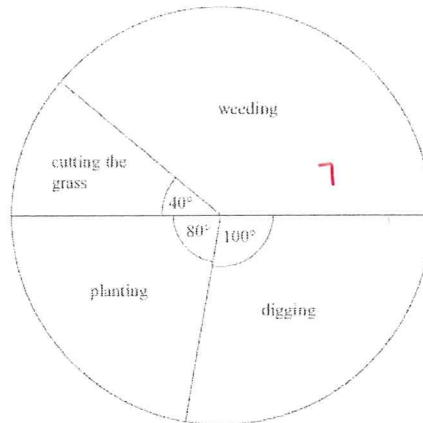| Bird	Frequency	
Magpie	15	75
Thrush	10	50
Starling	20	100
Sparrow	27	135

72

Complete the accurate pie chart.

(3 marks)

9. The pie chart shows some information about the time Gill spent working in her garden one month.

(a) What fraction of the time did Gill spend cutting the grass?

$$\frac{40}{360} = \frac{4}{36} = \frac{1}{9}$$

(1)

Gill spent 7 hours weeding.

(b) How much time did Gill spend planting?

220

360 - 220 = 140

= 7 hrs.

.... **4** .... hours

(3)

(4 marks)

1 hr = 20°.