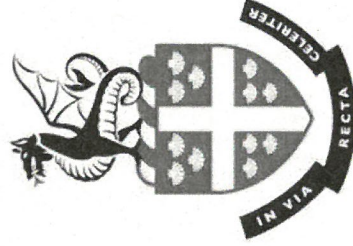


Kingswood School

SAMPLE PAPER



MATHEMATICS

(ENTRY TO YEAR 7)

Time Allowed: 1 hour 10 minutes

- ❖ Calculators are not allowed
- ❖ Write all your answers and working on the test paper – do not use any rough paper
- ❖ This test starts with easier questions
- ❖ Try to answer all questions
- ❖ Check your work carefully

Please note: mobile devices (phones/tablets etc.) may not be taken into the examination room under *any* circumstances.

Write your **full name** here:

Write the name of your **current school** here:

Write your **date of birth** here:

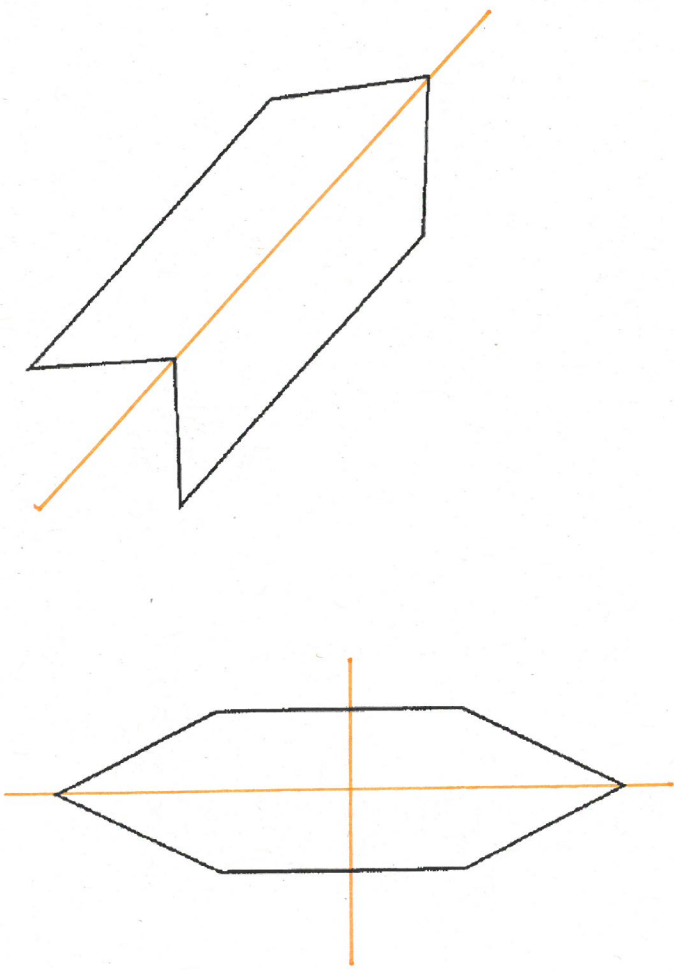
Mark = _____ out of 49

= _____ %

1)

Each of these shapes has one or more lines of symmetry.

Draw all the lines of symmetry on each shape.



(1 Mark)

2)

Here is a table showing the number of children at five schools.

Number of children attending five schools

School	Number of children
Robin Hill	171
Maddox	118
Park	180
Wooding	109
Farm Road	155

Tick (✓) the school with the most children.

(1 Mark)

There are 24 children in the nursery.

4 boys and 5 girls go outside. = 9

How many children are left inside the nursery?

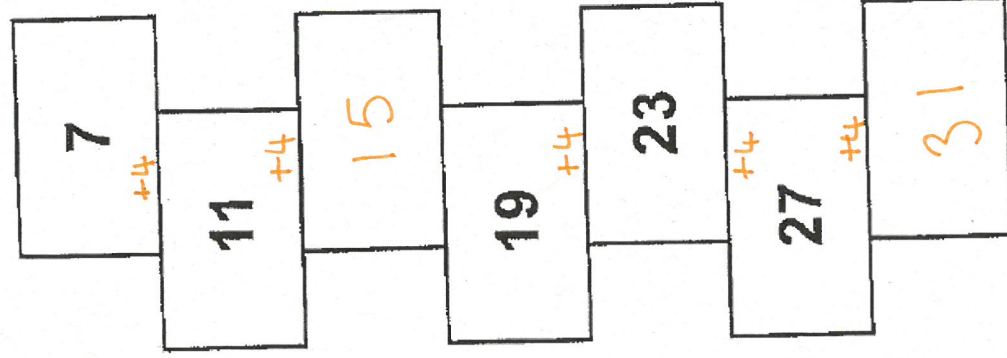
$$\begin{array}{r} 24 \\ - 9 \\ \hline 15 \end{array}$$

15

Children

(1 Mark)

3) Complete this sequence.



(1 Mark)

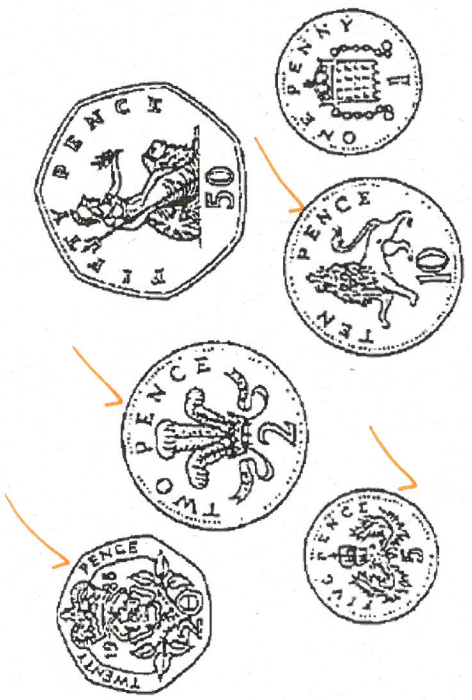
4) Sally buys crisps and an apple.

MENU	
Drink	25p
Apple	17p
Cake	32p
Crisps	20p
Chips	44p

$$\begin{array}{r} 20p \\ 17p \\ \hline 37 \end{array}$$

$$20 + 10 + 5 + 2$$

Tick (✓) the coins she needs.



(1 Mark)

5) Put different numbers in the circles so that all seven numbers are in order.

24 **Least value**

25-299

300

301-306

307

308-
511


512 **Greatest value**

(1 Mark)

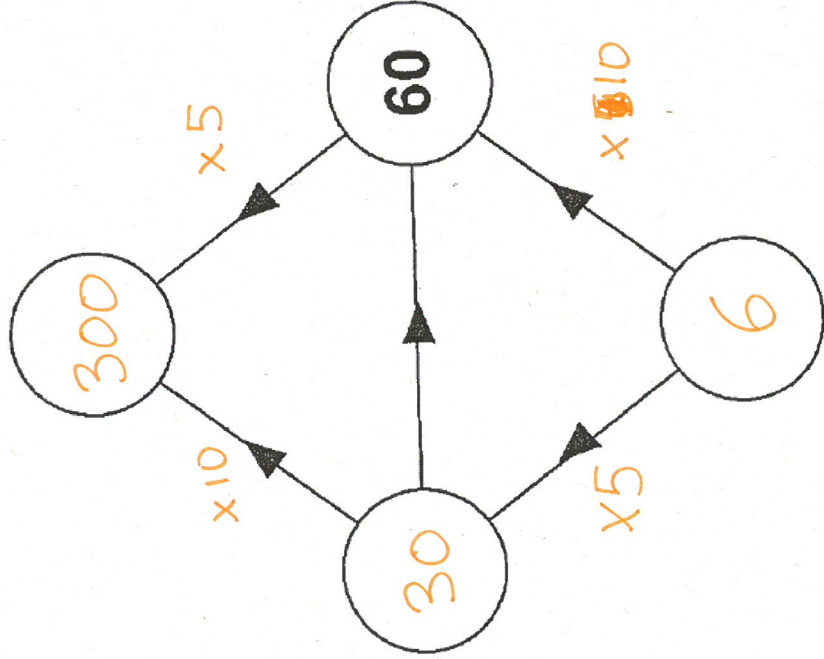
7)

Write the missing numbers in the circles using these rules.

For  you multiply by 10.

For  you multiply by 5.

For  you multiply by 2.



(2 Marks)

8)

Explain why 16 is a square number.

16 items can be arranged in to a

Square: 4 x 4

.....

x x x x

x x x x

x x x x

x x x x

(1 Mark)

6)

I'm thinking of a 3-D shape.
It has a square base.
It has 4 other faces, which are triangles.



What is the name of the 3-D shape?

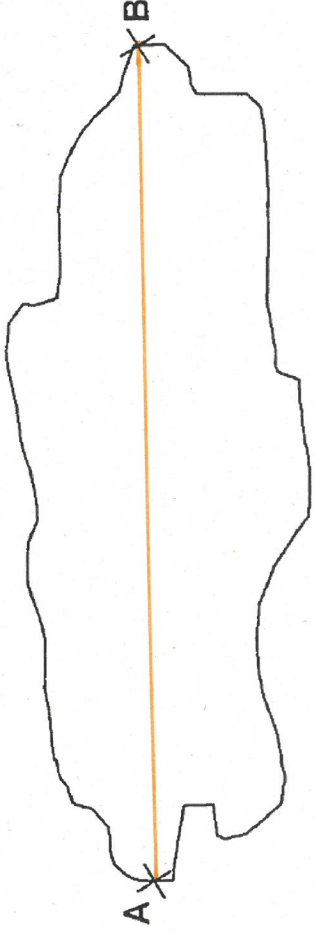
Square based Pyramid.



(1 Mark)

9) This is a scale drawing of a pond.

Scale
1cm to 2m



(a) Use a ruler to measure the distance across the drawing from A to B

11 cm

(b) Use the scale to work out the actual distance across the pond from A to B.

$$1 \text{ cm} \stackrel{\times 2}{=} 2 \text{ m}$$
$$11 \stackrel{\times 2}{=} 22 \text{ m}$$

22 m

(2 Marks)

10)

Emma saves £3.50 each week.

How much has she saved after 16 weeks? = 8 fortnights $8 \times 7 = 56$.

$$\begin{array}{r}
 3.50 \times 16. \\
 \textcircled{1} \\
 3.5 \\
 \underline{13} \\
 210 \\
 350 \\
 \hline
 56.0
 \end{array}$$

£ 56.

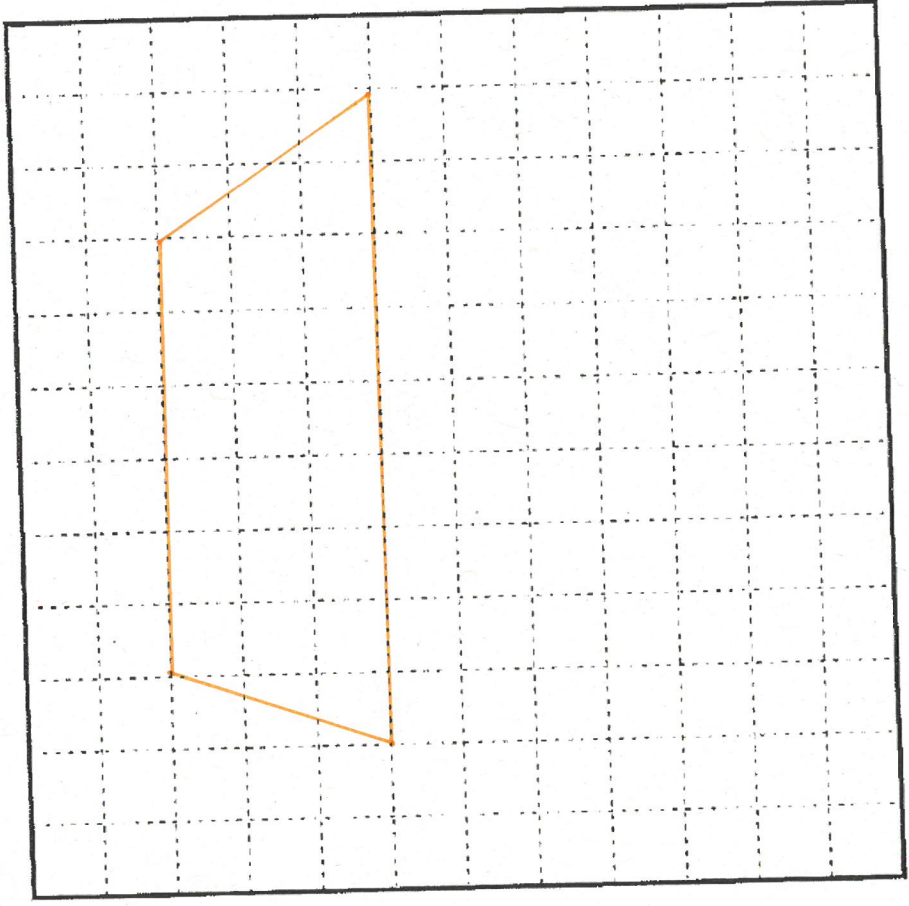
or £7 every fortnite

(1 Mark)

11)

Here is a grid of centimetre squares.

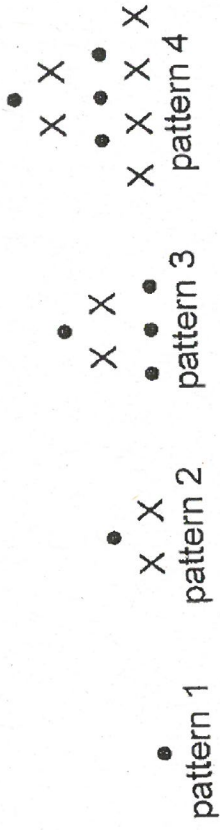
On the grid draw a quadrilateral. It must have only one pair of parallel sides.



(1 Mark)

12)

This series of patterns grows in a regular way.



How many dots would be in pattern 5?

9

How many crosses would be in pattern 5?

6

(1 Mark)



13)

80 people were asked if they owned a pet.

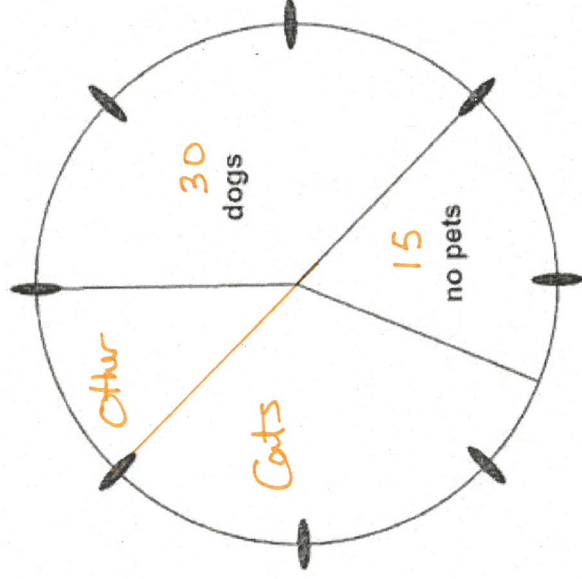
30 had dogs

25 had cats

10 had other pets

15 had no pets

Complete the pie chart to show this information.



(2 Marks)

14)

This calculation has the same number missing from each box.

a

Write the missing number in the boxes.

$$\begin{array}{r} \boxed{7} \\ \times \boxed{7} \\ \hline \boxed{7} \end{array} - \boxed{7} = 42$$

$$\begin{array}{r} 10 = 90 \\ 9 = 72 \\ 8 = 56 \\ 7 = 42 \end{array}$$

or

$$\begin{array}{l} a \times a - a = 42 \\ \therefore a^2 = 42 + a \end{array}$$

(1 Mark)

15)

These are the marks from a spelling test.

Jay ~~16~~

Karen ~~13~~

Dominic ~~18~~

Tariq ~~13~~

Lara ~~12~~

Oliver ~~14~~

Gemma ~~19~~

What is the median number of marks?

14.

12, 13, 13, (14), 16, 18, 19

(1 Mark)

16)

A spoonful is 5ml.

How many spoonfuls can you get from this bottle?



$$5 \overline{) 375} \\ \underline{075} \\ 5$$

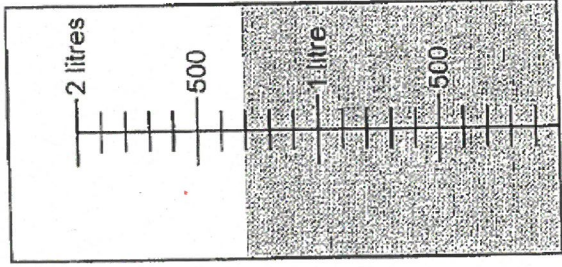
75 spoonfuls

(1 Mark)

17)

This is the scale on the side of a measuring jar.

There is some coloured water in the jar.



How much more water is needed to make 2 litres?

700 ml

(1 Mark)

18)

Write the missing numbers.

Factors of 20 = {1, 2, 10, 4, 5, 20}

(1 Mark)

19)

There are 104 children at Delton School

48 children are girls

(a) How many are boys?

(b)

Explain how you worked this out.

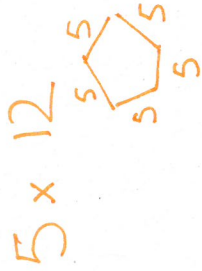
$$\begin{array}{r} 104 \\ - 48 \\ \hline 56 \end{array}$$

104 take away 48
is the whole school
number minus the
number of girls.

(2 Marks)

20)

Each side of a pentagon is twelve centimetres.
What is the perimeter of the pentagon?



60cm

(1 Mark)

21)

What is two hundred and seventy-six centimetres to the nearest
metre?

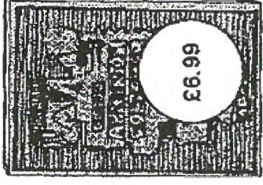
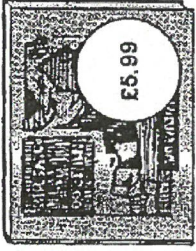
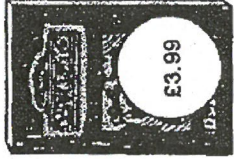
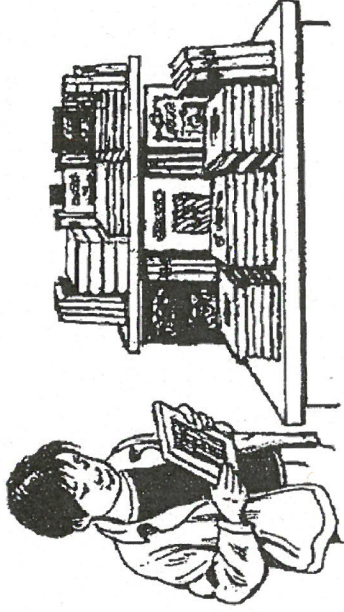
$$276 \text{ cm} \div 100$$

$$2.76 \text{ m} = 3 \text{ m}$$

(1 Mark)

22)

Book Sale
Any 3 books for £14.50



Lee bought these three books in the sale for £14.50

How much money did he save altogether compared to the full price of the books?

$$\begin{array}{r} 3.99 \\ 5.99 \\ 6.99 \\ \hline 16.97 \end{array}$$

$$\text{or } 4 + 6 + 7 = 17 - 3p$$

$$\begin{array}{r} 16.97 \\ 14.50 \\ \hline 2.47 \end{array}$$

£ 2.47

(2 Marks)

23)

Write in the missing digits to make this correct.

$$\begin{array}{r} \boxed{3} \\ 4 \end{array} \begin{array}{r} \boxed{2} \\ \end{array}$$

x 6

$$\begin{array}{r} 2052 \\ \hline \end{array}$$

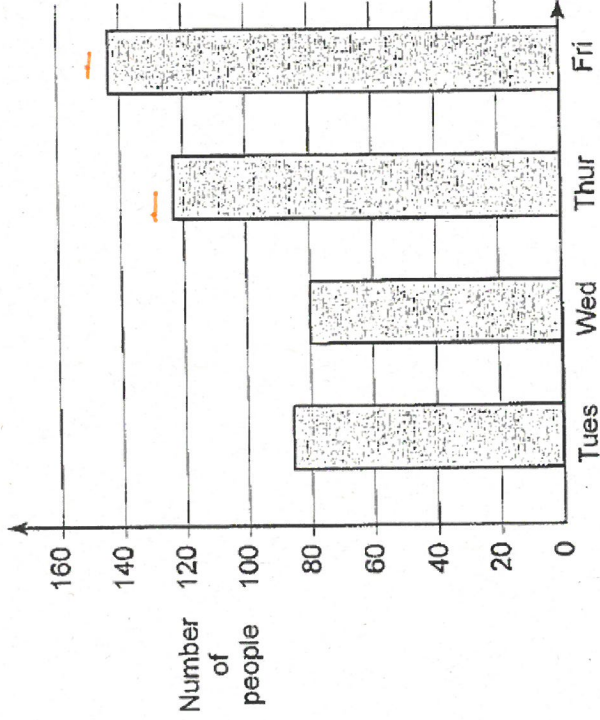
(1 Mark)

$$\begin{array}{r} .4 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 0.342 \\ 6 \overline{)2052} \end{array}$$

24)

This bar chart shows how many people went to a school play.



Estimate the number of people who went there on Thursday and Friday altogether.

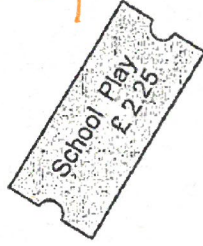
124

143

267



$$\begin{array}{r} 124 \\ 143 \\ \hline 267 \end{array}$$



Each person paid £2.25 for a ticket to get in.

Using the box on the next page to show your working, find how much ticket money was collected on Wednesday?

2.25

8

24

18.00 x 10

180

£ 180

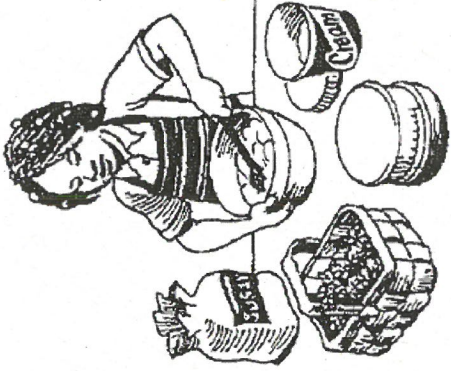
(3 Marks)

25)

Here is a recipe for raspberry ice cream.

raspberry ice cream
for 8 people

$\frac{1}{2}$ litre of cream
1kg raspberries
250g sugar



This recipe is for 8 people.

Josie makes enough raspberry ice cream for 12 people.

$$12 = 8 \times 1\frac{1}{2}$$

How much cream does she use?

$\frac{3}{4}$ litre

$$\frac{1}{2} \times 1\frac{1}{2} = \frac{3}{4}$$

Fred makes raspberry ice cream in the same way.

He uses $2\frac{1}{2}$ kg of raspberries.

Sugar = $\frac{1}{4}$ of raspberries

How much sugar does he use?

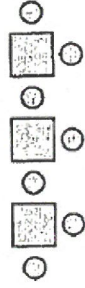
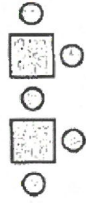
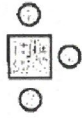
$$2\frac{1}{2}\text{kg} = 2500\text{g} \times \frac{1}{4}$$
$$\begin{array}{r} 0625 \\ 4 \overline{) 2500} \end{array}$$

625 g

(3 Marks)

26)

Here is a sequence of patterns made from squares and circles.



number of squares	number of circles
1	3
2	5
3	7

The sequence continues in the same way.

calculate how many squares there will be in the pattern which has 25 circles.

$$\# \text{ circles} = (\text{Squares} \times 2) + 1$$

$$C = 2S + 1$$

$$25 = 2S + 1$$

$$24 = 2S$$

$$12 = S$$

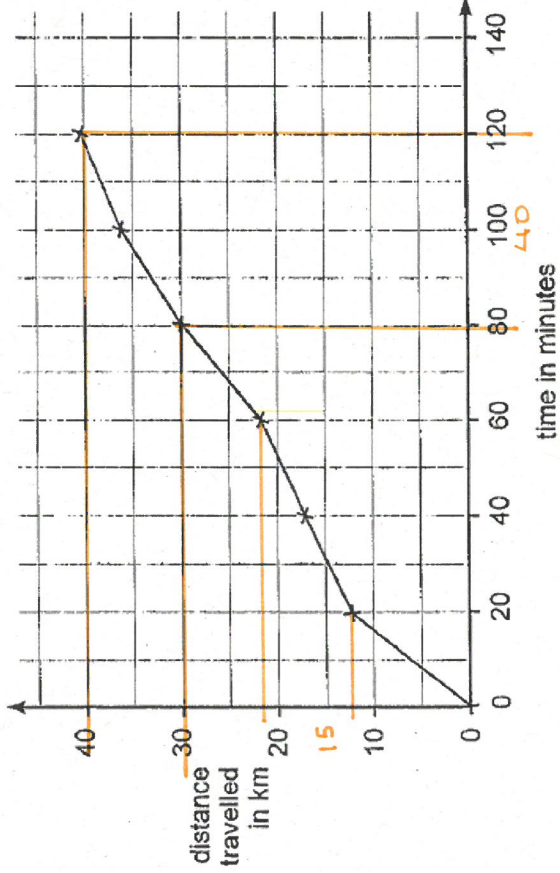
12

(2 Marks)

27)

Carol went on a 40-kilometre cycle ride.

This is a graph of how far she had gone at different times.



How many minutes did Carol take to travel the last 10 kilometres of the ride?



40 minutes

Use the graph to estimate the distance travelled in the first 20 minutes of the ride.



12-13 km

Carol says,

'I travelled further in the first hour than in the second hour'.

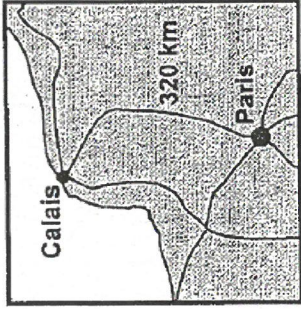
Explain how the graph shows this.

In the first hour she travelled c. 22 km
In the second hour she travelled 40 - 22 km = 18 km.

(3 Marks)

28)

Here is a map of part of France.



The map shows that the distance from Calais to Paris is 320 kilometres.

5 miles is approximately 8 kilometres.

Use these facts to calculate the approximate distance in miles from Calais to Paris.

$$\begin{array}{r} 040 \\ 8 \overline{) 320} \\ \underline{80} \\ 240 \\ \underline{240} \\ 0 \end{array}$$

$$\begin{array}{r} 40 \\ \times 5 \\ \hline 200 \end{array}$$

4200 miles

Samira bought this present in France.



44.85 Euros

She paid 44.85 Euros for it.

1.3 Euros equal £1

What was the cost of the present in pounds and pence?

$$\begin{array}{r} 03.45 \\ 1.3 \overline{) 44.85} \\ \underline{39} \\ 585 \\ \underline{585} \\ 0 \end{array}$$

£ 34.50

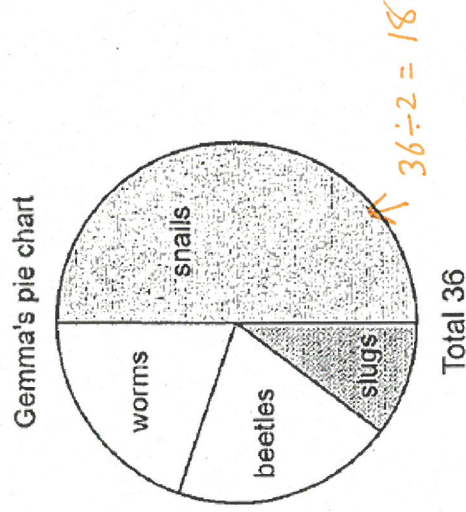
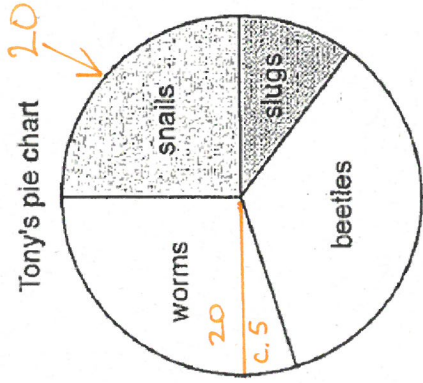
(4 Marks)

29)

Tony and Gemma looked for snails, worms, slugs and beetles in their gardens.



They each made a pie chart of what they found



Estimate the number of worms that Tony found.



25

Who found more snails?

Circle Tony or Gemma.

Tony / Gemma

Explain how you know.

Tony found $\frac{1}{4}$ of 80 = 20

Gemma found $\frac{1}{2}$ of 36 = 18

(4 Marks)