# ALDENHAM SCHOOL

## 11 + Entrance Paper

## SAMPLE PAPER

## Mathematics

Length of Examination – 45 minutes

**Do not open until you are told to do so**

Surname: …… School:……

First name: ……... Age: Years …… Months ……..

**INSTRUCTIONS FOR CANDIDATES**

- Write your answers in the spaces provided in this booklet
- Show sufficient method to show how you obtained your answers
- Calculators MUST NOT be used in any question.
- Rulers may be used.

Work steadily through the paper doing as much as you can straight away, then go back to work at the more difficult questions.

Total Number of Marks: 64

1. The table shows the size of population for five Derbyshire villages.

| Village | Population |
|---|---|
| Ashover | 1796 |
| Bamford | 14320 |
| Clowne | 6152 |
| Darley Dale | 9517 |
| Eckington | 22315 |

(a) Write the population of Darley Dale in words.

…….....

[1]

(b) Write the population of Clowne correct to the nearest 100.

.....

[1]

(c) Write the population of Eckington to the nearest 1000.

.....

[1]

(d) How many more people live in Eckington than Bamford?

.....

[1]

2. Fill in the gaps

a) ….. + 46 = 100

b) 9 x ….. = 108

c) ….. ÷ 20 = 7

d) 3 - ….. = - 8

[4]

3. Mrs Green parked her car in a car park at 9.00 am.
She drove out of the car park at 5.00 pm.

**Car Parking Charges**

**£1.80 per hour**

(a) For how many hours was her car in the car park?

..... hours
[1]

(b) How much did she pay, in total, for parking her car?

£.....
[1]

4. a) 2.4 x 100 = ……

b) 8600 ÷ 10 = ……

c) ……. x 30 = 600

d) 80 ÷ 200 = ……

[4]

5. Gino is thinking of a number.

If he

- halves it,
- then adds 5 to it
- and then squares it and gets 121.

Circle the number that Gino was thinking of.

**12** **17** **32**

[1]

6. (a) The entry prices at a theme park are

| | |
|---|---|
| Adults | £6.25 each |
| Children | £2.50 each |

Find the cost for 2 adults and 4 children to visit the theme park.

£.....
[1]

(b) The entry prices for a group are

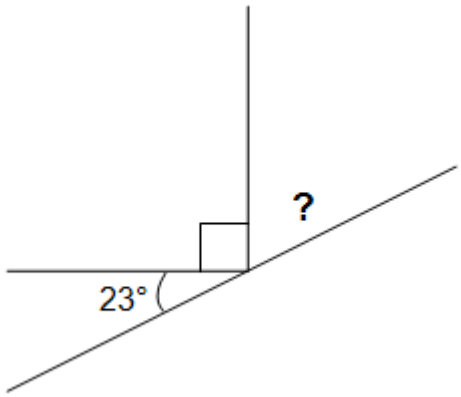
| | |
|---|---|
| Adults | £5.00 each |
| Children | £3.00 each |

A group of adults and children goes to the theme park for a cost of £44.

There are 4 adults in the group.
How many children are in the group?

..... children
[2]

7.

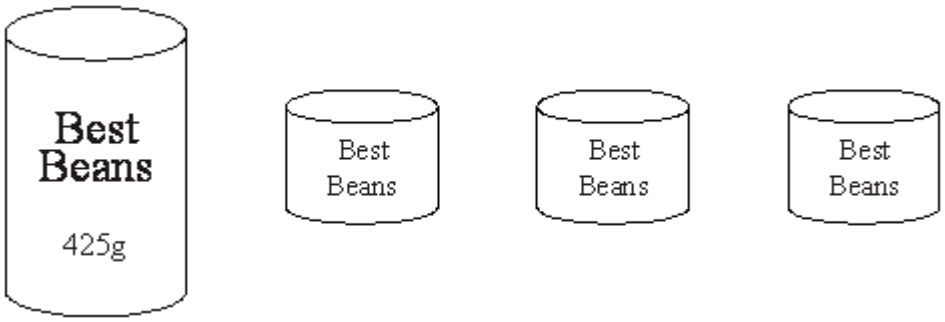



Not to scale.

What is the value of the missing angle.

.....°.
[1]

8. **The total weight of one large and three small cans of Best Beans is 1.25 kg.**
The large can weighs **425** grams.

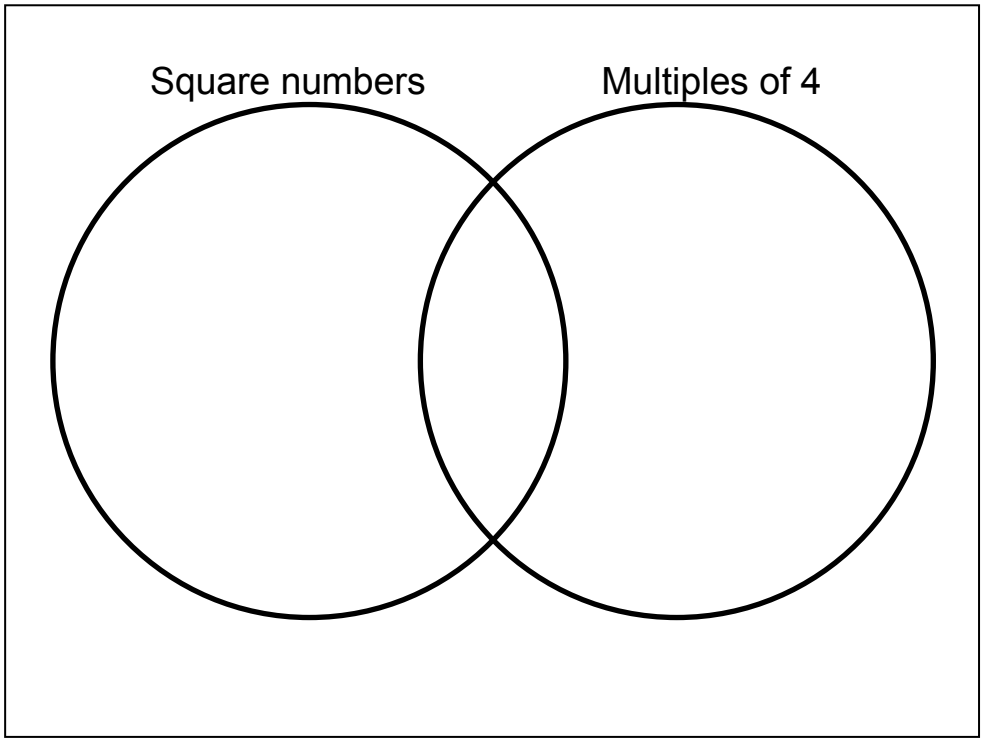



Work out the weight of one small can.

..... grams
[2]

9. Place the numbers below in the correct place in the Venn Diagram.

**1 2 4 12 36 48 49 50**




[4]

10. Find the mean weight of the sharks below.



3kg 6kg 9kg 22kg 28kg 1kg 6kg 5kg

..... kg
[3]

11. There are 24 pupils in 7S.

- Two thirds of them are boys.
- Half of the boys have brown hair.

How many of pupils in 7S are boys with brown hair?

.....
[2]

12. Circle the highest number in each group.

| | | | | |
|---|---|---|---|---|
| a) | 0.609 | 0.069 | 0.63 | 0.063 |
| b) | -7.5 | -1 | -8 | -1.5 |
| d) | 0.09 | 39% | 0.44 | $\frac{2}{5}$ |

[3]

13 The temperature, in °C, at midday at the theme park on 6 winter days was recorded.

| Day | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| Temperature | – 3 | –2 | 0 | –4 | 1 | -1 |

(i) Which day was the warmest at midday?

.....
[1]

(ii) Which day was the coldest at midday?

.....
[1]

(d) On Sunday the temperature was 5 degrees warmer than on Saturday.
What was the temperature on Sunday.

..... °C
[1]

14 The table shows Ann's marks in two tests.

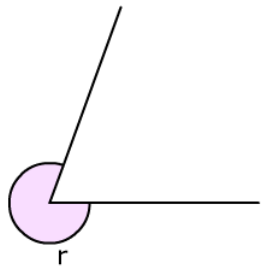
| **Test** | **Mark** |
|---|---|
| 1 | 60 out of 80 |
| 2 | 70 out of 100 |

In which test did Ann do better?
You **must** show your working.

.....

.[2]

15.




Estimate the size of angle r.

r = ……

[1]

16. Edith is choosing pairs of numbers from this list.

**4 23 45 58 120**

(a) She multiplies two numbers together.

Which two numbers should she choose to get an answer between 200 and 300?

..... and .....
[1]

(b) She divides one number by another number.

What is the largest possible answer?

.....
[1]

17. Fill in the missing numbers in the sequences below.

| | | | | | | |
|---|---|---|---|---|---|---|
| a) | -8 | -3 | 2 | 7 | …… | …… |
| b) | 61 | 53 | …… | 37 | …… | 21 |
| c) | 240 | 120 | ……. | 30 | 15 | …… |

[3]

18. The students on the Aldenham Geography trip to Iceland arrive at Heathrow Airport at 10:45.
Their flight leaves at 13:05.

How many minutes do they have to wait at the airport before their flight leaves?

……minutes
[1]

19. The water cooler in the staff room contains 5 litres of water.

How many 200ml glasses of water can it fill before it needs replacing?

……..

[1]

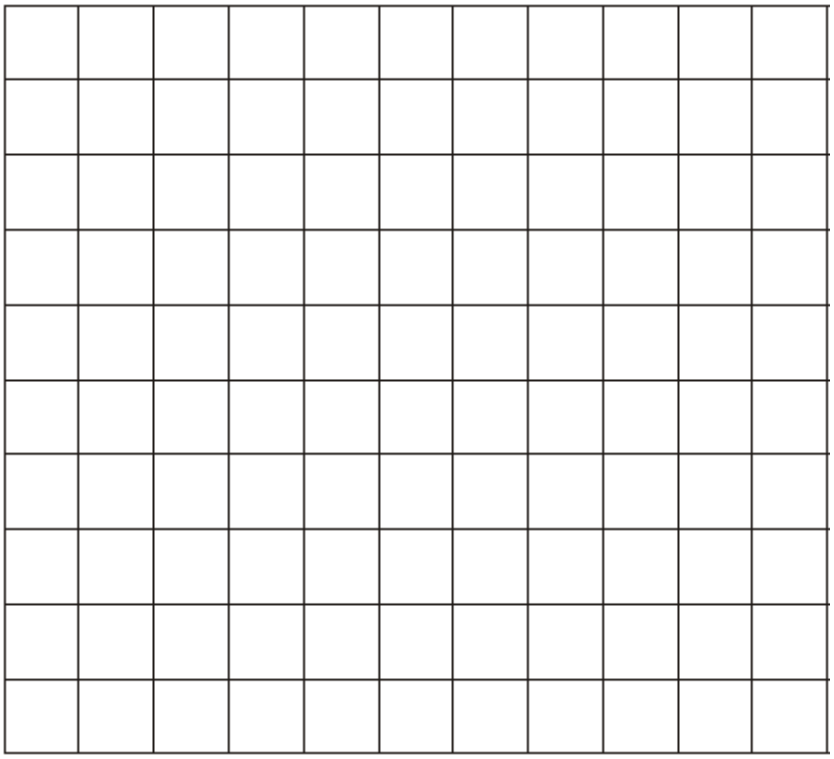
20. The chart below shows the technology subjects studies by a group of students.

| | Art | Design Tech | Textiles | **TOTAL** |
|---|---|---|---|---|
| Boys | 25 | | 0 | 60 |
| Girls | | 12 | 5 | |
| **TOTAL** | 52 | | 5 | |

Complete the chart above

[3]

21. A rectangle has an area of 36 $cm^2$ and a perimeter of 26 cm.
Find the length and width of the rectangle.
You may use the grid to help you.

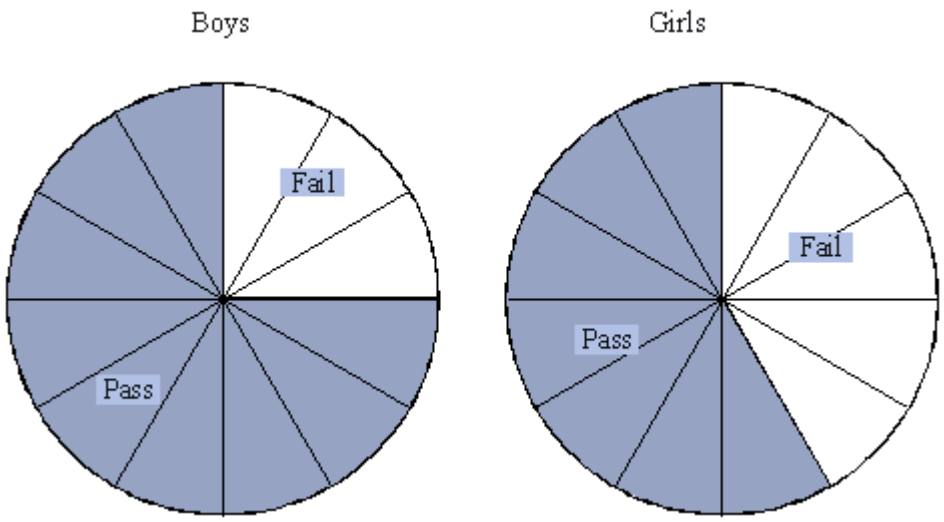


Length ..... cm

Width ..... cm

[2]

22. The pie charts show the results of a cycling test taken by all pupils in year 7.




(a) The number of boys who fail the test is 15.

How many boys pass the test?

.....

[1]

(b) Charlie says that more girls fail the test than boys.

Explain why he might not be correct.

……...

……...

……...

……...

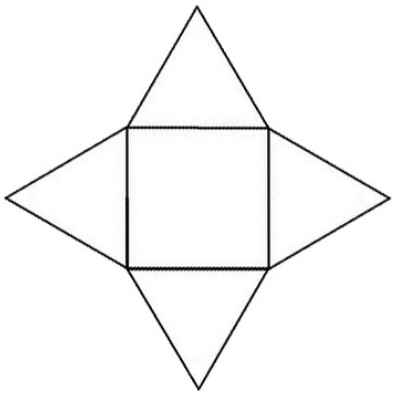
[1]

23. Work out 235 x 68

……

[3]

24a.



Which 3D shape is this the net of?

……

[1]

24b. Which 2D shape has 4 sides, no right angles and 1 pair of parallel sides?

……

[1]

25. If 2 apples and 1 banana cost £1.20

and

1 apple and 2 bananas cost £1.35, find the cost of an apple and a banana separately.

Apple ……p

Banana ……p

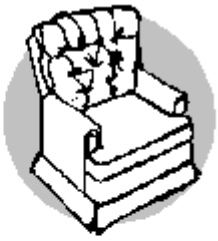
[3]

26 Zain wants to buy **two** chairs.

Three shops advertise the same luxury chair.
Each shop has a special offer.

**Shop A**
Chair – normal price £600

Special Offer – 30% off normal price



**Shop B**
Chair – normal price £550

Special Offer – $\frac{1}{5}$ off normal price

**Shop C**
Chair – normal price £820

Special Offer – buy one get one free

At which shop is the price of the two chairs the cheapest?

You **must** show your working.

Shop .....
[3]

**END**