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: 60

1. Mr and Mrs Newland and their 2 children were going to a pop concert.

The prices were as follows

	Cost
Adult	£45.00
Child	£30.50

(a) What is the total cost for all four of the family to go to the concert?

£.....
[1]

(b) To see the mid-week show there is a special offer where a family ticket, for 2 adults and 2 children, cost only £125?

How much would this ticket save the family?

£.....
[1]

(c) 17600 people attended the concert.

Given that 40% of these were adults, how many people were adults?

.....
[2]

2. Jonathon and his dad were both born on 5th August.

Jonathon was born in 1985 and his father is 32 years older than him.

In which year was his dad born?

.....

[1]

3. Fill in the gaps

a) 60 - …… = 43

b) ….. x 40 = 280

c) …... ÷ 30 = 5

d) - 8 + ….. = - 1

[4]

4. a) 100 x 2.8 = ……

b) 8600 ÷ 20 = ……

c) 200 x ……. = 160

[3]

5. Scarlett has **p** pence. She spends 71 pence on a new rubber.
Circle the expression that shows how much money Scarlett has left.

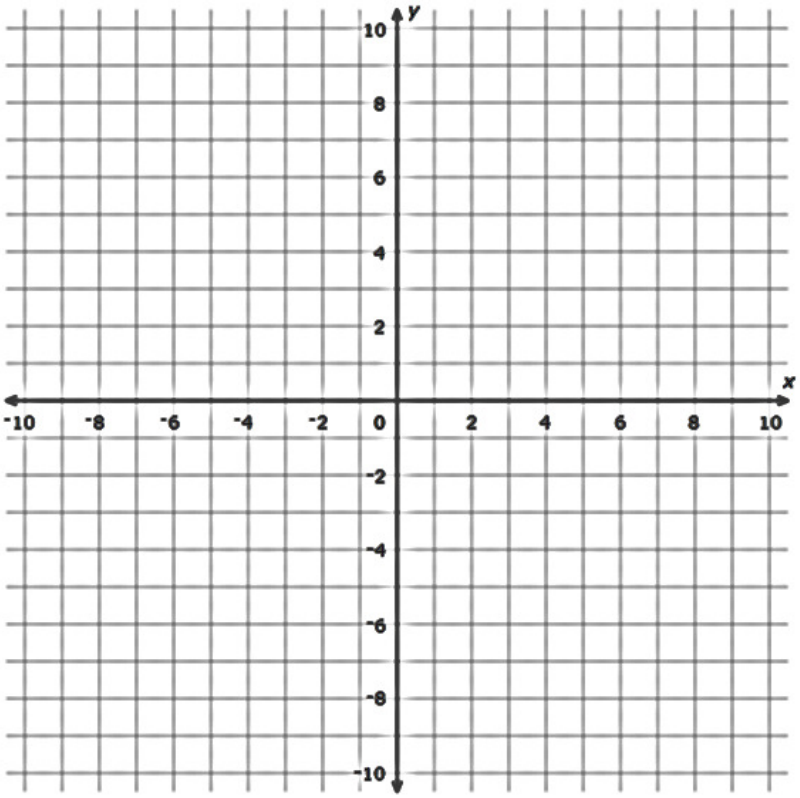
$71p$	$71 + p$	$p - 71$	$71 - p$

[1]

6. Three vertices of a parallelogram are (-8, -3), (-5, 4) and (3, 4).

6a. Plot these points on the axes below.

[1]



6b. Write down the 4th co-ordinate of the missing vertex of the parallelogram.

.....

[1]

7. Fill in the missing numbers in the number patterns?

7a -2, 5, 12, 19, 26, ...

7b 43, ……., 31, 25, 19, 13

7c 2, 5, 10, 17, ……., 37

[3]

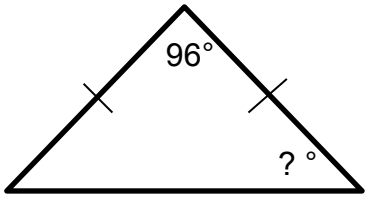
8. Hasan wakes up at the time shown below.

He needs to be at cricket training at 10am – how many minutes does he have until his training starts?



.....
[1]

9. Calculate the missing angle in this isosceles triangle.



? = ...°.
[1]

10. The original price of a bicycle is **£260**. Which of these is the better deal?

Deal A



Deal B



Show workings.

Deal ……..
[2]

11 Look at the pictogram below.

Kilometres run	
Jeff	
Baldwin	
Trent	
Norma	
Steven	
Alvin	

Each = 2 kilometres

Each = 1 kilometre

How many more km did Baldwin run compared to Jeff?

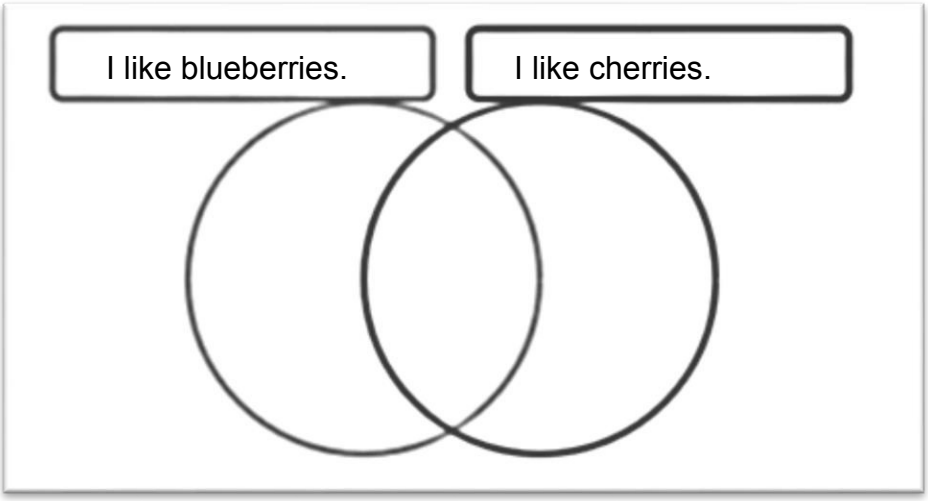
.....

[1]

12. Clara did a survey amongst her 20 friends.

- 8 of her friends liked blueberries, 15 liked cherries.
- 2 liked neither.

How many or her friends liked **blueberries and cherries?**

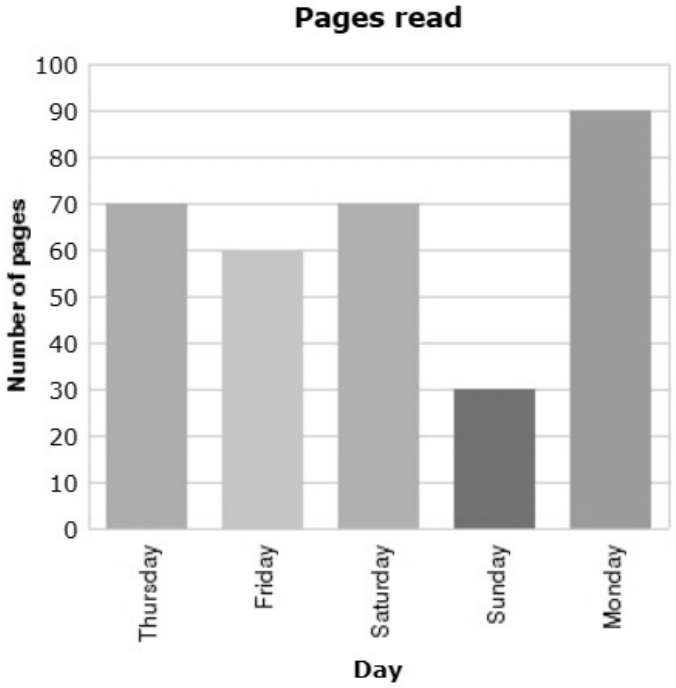


(Use the Venn Diagram to help you.)

.....

[2]

13a. Dillan wrote down how many pages he read over the past 5 days.

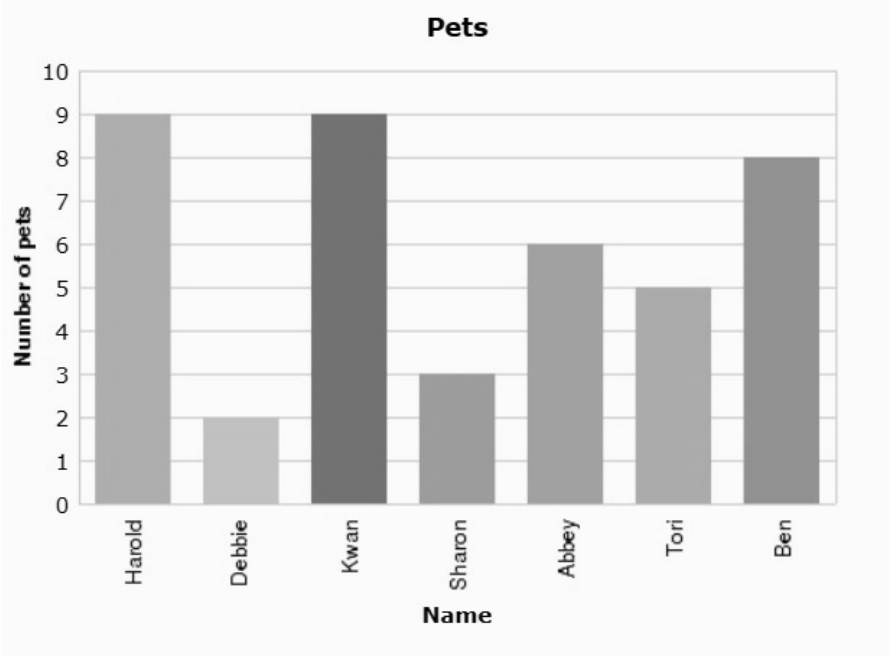


What is the median of the number of pages which he read?

.....

[1]

13b. Some students compared the number of pets which they had. The results are displayed below.



Find the range of the number of pets owned.

.....

[1]

14. There are 14 boys in year 4.

Given that $\frac{2}{5}$ of the year are boys, how many are girls?

.....

[1]

15. Given that **a = 5**, **b = 2** and **c = 10** find:

15a. 2a – b ……..

15b. c – (a – b) ……..

15c. $3b^2$ ……..

[3]

16. Put these in order, smallest to largest.

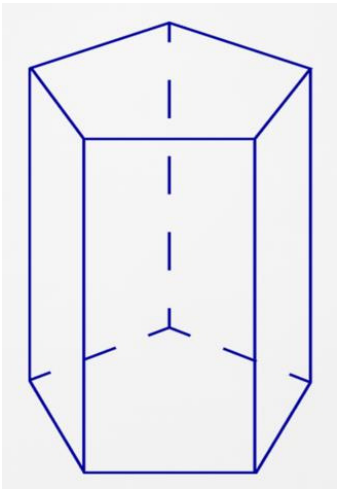
$\frac{3}{4}$	65%	$\frac{14}{20}$
…….	…….	……..

[1]

17. The diagram shows a pentagonal based prism.

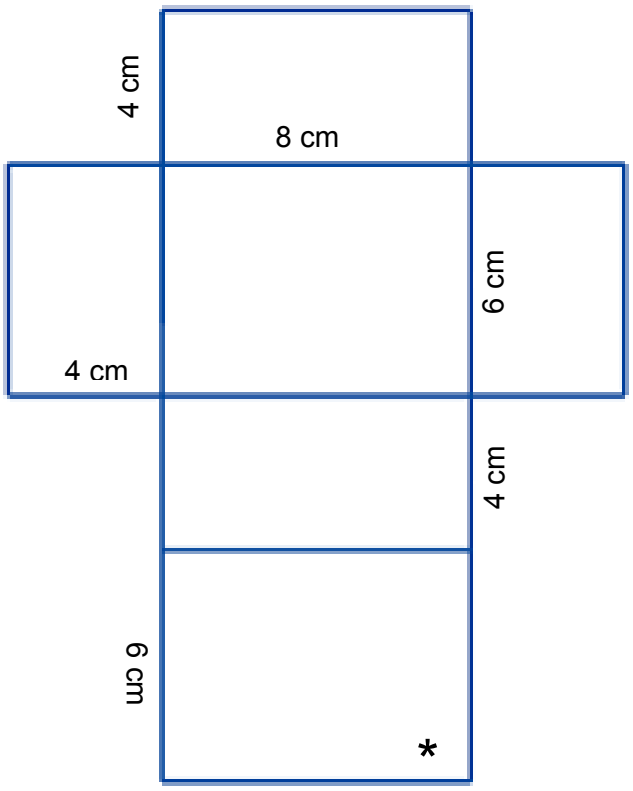
State the number of

- Faces ……
- Edges ……



[2]

18a. Which 3D shape does the net below make?



.....
[1]

18b. Work out the volume of the 3D shape.

.....cm^3
[1]

18c. When the 3D shape is constructed which 2 other vertices meet up with the vertex labelled with a *.
Label both vertices with *

[1]

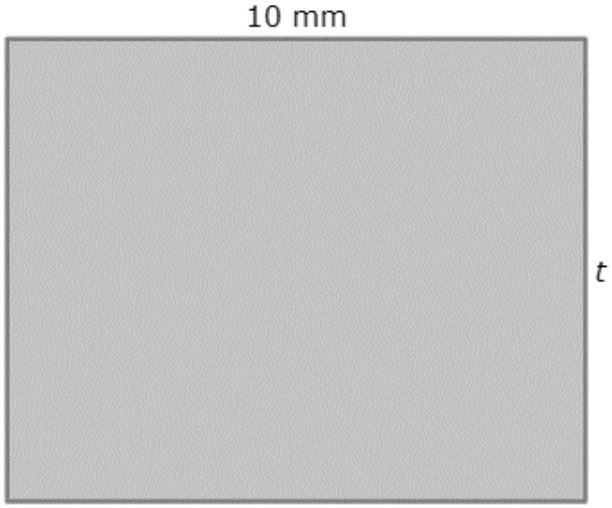
19. Mrs Prince wishes to buy each member of her class a photo frame as a present.
There are 24 pupils in her class and each photo frame costs £3.75.

Find the total cost of all 24 frames.

.....
[2]

20. Look at the rectangle below.

.



Perimeter = 36 millimetres

Find the value of t.

……..
[2]

21. Evaluate the following expressions.

21a. $13 + 4 \div 2$ ……

21b. $4 \times 5 - 8 \times 3$ ……

21c. $(-4 + 7)^3$ ……

[3]

22a. I am thinking of a number.

If I add 5 to it and then divide by 2, I get 6.

What number am I thinking of?

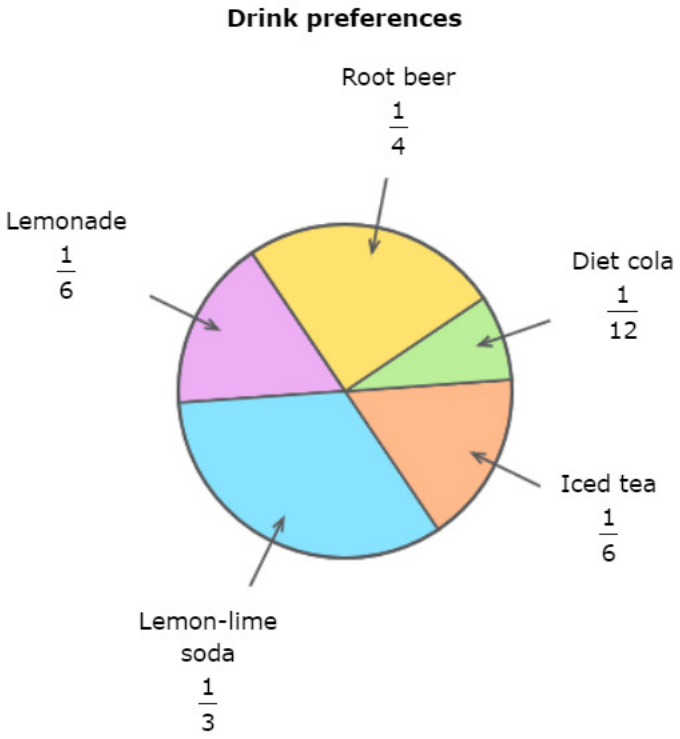
……..
[2]

22b. Solve the following equation to find x.

5x – 7 = 43

……..
[2]

23. Students at Arlington Secondary School were polled regarding their favourite drinks.



Given that there are 600 students at the school, how many more preferred root beer than lemonade?

……..
[2]

24a. Work out $\frac{2}{5} + \frac{3}{8}$

…… [1]

24b. Simplify $\frac{12}{60}$

…… [1]

25. The number of students absent from Year 7 was recorded as follows.

Monday	Tuesday	Wednesday	Thursday	Friday
4	6	5	3	?

If the **mean number** of students absent that week from Year 7, was **4**, how many students were absent on Friday.

.....

[2]

26. Which sign makes each of the following statements true?

>	<	=

26a. 0.022 ……. 0.2

26b. 15% of £300 ……. 20% of £240

26c. $\frac{2}{5}$ of £40 ……. 25% of £64

[3]

27. The chart below shows the languages studied by a group of students.

	History	Geography	Classics	**TOTAL**
Boys	28		8	50
Girls		19		
TOTAL	35		29	

Complete the chart above

[3]

END