

Name _____

Candidate Number _____

Room Number _____

WITHINGTON GIRLS' SCHOOL

ENTRANCE EXAMINATION 2017

MATHEMATICS

PAPER 1

TIME: 30 MINUTES

- Try to answer all the questions.
- Write your working and your answer in the space provided after each question.
- If you cannot answer a question, leave it and go on to the next one.
- Use any time you have left to check your answers and go back to any questions you have left out.

CALCULATORS MUST NOT BE USED

| | |
|-----------------------|--|
| PAPER 1 TOTAL | |
| Marker's Initials | |
| Checker's Initials | |

Section DDo not
write in
this
marginIn this section, write down the number that **n** stands for.

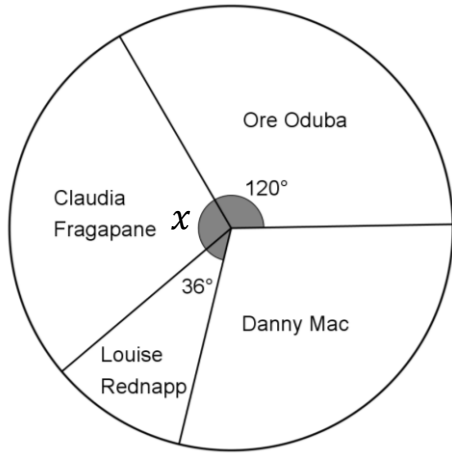
| | | |
|---|---------------------|---|
| 1. n is the next number in the sequence 31, 23, 15, 7,..... | n = _____ | 1 |
| 2. n is the number 20% more than 75 | n = _____ | 1 |
| 3. n is the number where $8 \times n = 16 \times 3$ | n = _____ | 1 |
| 4. n is the number of millimetres in 1.2 metres | n = _____ | 1 |
| 5. n is the number where $5:6 = n:15$ | n = _____ | 1 |
| 6. n is the largest even number that can be written using the digits 2, 7, 8, 3, 4 using all the digits once | n = _____ | 1 |
| 7. n is the number where $n \times 2 = 3.52$ | n = _____ | 1 |
| 8. n is the difference between 1208 and 759 | n = _____ | 1 |
| 9. n is the perimeter of a square with an area of 36 cm^2 | n = _____ cm | 1 |
| 10. n is the largest multiple of 12 less than 120 | n = _____ | 1 |

PLEASE TURN OVER

Section E

Do not write in this margin

1. There are 90 girls in Year 7 at Withington. All Year 7 girls were asked to name their favourite Strictly Come Dancing contestant. The results are shown in the pie chart.



- (a) How many girls chose Louise Rednapp?

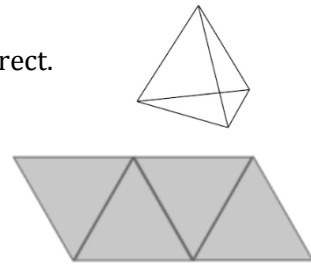
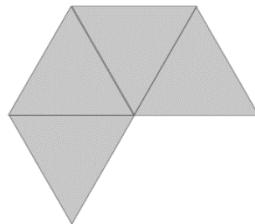
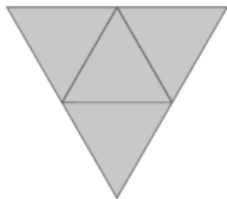
1

- (b) 25 girls chose Claudia Fragapane. What is the size of angle, x ?

_____°

1

2. The diagram shows a tetrahedron or triangular-based pyramid. The tetrahedron is made up of 4 identical equilateral triangles. Janani designs three possible nets but she is not sure if they are all correct.



Circle the number of correct designs

0

1

2

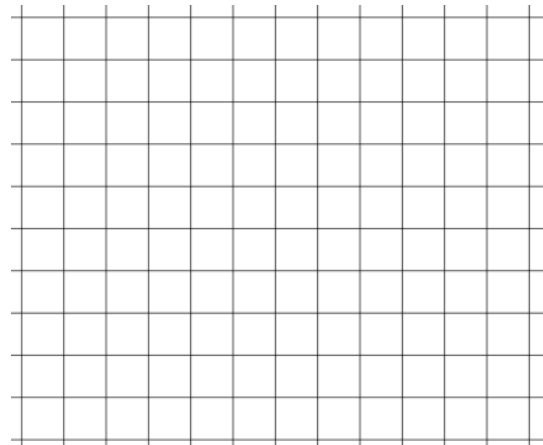
3

1

3. P is a pentagon with

- 1 line of symmetry
- 4 obtuse angles and 1 acute angle

On the grid draw P.



1

4. After dropping you off at Withington this morning, 40 parents went to Starbuck's Coffee shop. Here is a summary of their orders:

| | Chocolate Brownie | Granola bar | Total |
|------------|-------------------|-------------|-------|
| Cappuccino | 14 | 16 | 30 |
| Tea | 2 | 8 | 10 |
| Total | 16 | 24 | 40 |

(a) How many parents ordered a cappuccino and a granola bar?

_____ 1

(b) What fraction of the parents ordered Cappuccino?
Give your answer in its simplest form.

_____ 1

(c) What fraction of the tea drinkers ordered a granola bar?
Give your answer in its simplest form.

_____ 1

5. Breakfast Juice is a mixture of apple, orange and grapefruit juice. In a 240 ml glass of breakfast juice, 160 ml are orange juice, $\frac{1}{12}$ is grapefruit juice and the rest is apple juice.

(a) What fraction of the drink is made up orange juice? Give your answer in its simplest form.

_____ 1

(b) How many millilitres of grapefruit are in the glass?

_____ ml 1

(c) What percentage of the drink is apple juice?

_____ % 1