DAME ALICE OWEN'S SCHOOL

MATHEMATICS ENTRANCE EXAMINATION
FAMILIARISATION

Time allowed: One hour.

Surname: .....

First name(s): .....

Registration No: .....

Read these instructions before you start:

There are 50 questions in this paper and each question is worth one mark. Work through the questions in the order that they appear. There may be some questions that you cannot do. If so, leave them until the end and then come back to them for another attempt.

Use the space by each question to work out the answer. Then write your answer clearly on the dotted lines provided. If an answer cannot be read easily it may be marked wrong.

You may use a pen or pencil for this paper.

Calculators are not allowed.

Mark and Percentage	Examiner

For questions 1 to 3 use this information:
A box contains 54 biscuits of which 16 are chocolate.

1. How many biscuits are not chocolate?

.....

---

2. How many people can have four biscuits each?

.....

---

3. How many biscuits are there in seven boxes?

.....

---

4. A school has 336 boys and 485 girls. How many pupils is this altogether?

.....

---

5. Write in figures the number before fifty thousand.

.....

---

6. Work out $4050 \div 100$.

.....

---

7. If ❐ represent an even number smaller than 10 and if ❐<5 state a possible value for ❐.

.....

---

8. Which of these fractions are greater than one half?

$\frac{3}{5}$ $\frac{3}{7}$ $\frac{5}{12}$ $\frac{8}{15}$ $\frac{11}{20}$

.....

---

9. Find the missing number.

$513 + ❐ + 130 = 764$.

.....

---

10. How many right angles are there in two complete turns?

.....

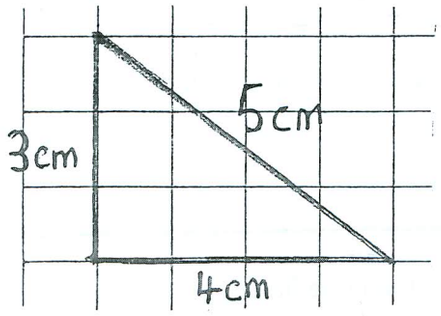
---

11. Which of these letters does **NOT** have line symmetry?

E M I L Y

.....

For questions 12, 13 and 14 use this diagram.



12. Calculate the perimeter of this triangle.

.....cm

---

13. Estimate the area of this triangle.

.....cm²

---

14. I place two triangles (identical to this) together along the diagonal. Name the quadrilateral formed.

.....

---

15. I cook rice for four people. I use 60 grams per person. How much, in grammes, remains from a 1 kilogram packet?

.....g

---

16. My journey to school generally takes 40 minutes. What time shall I leave home if I want to arrive at 8.15a.m?

.....a.m.

For questions 17 and 18 use this information.

In my pencil case there are six pencils and two pens.

17. If I take out one item and want it to be a pen which of these words best describes the chances?

certain: fairly likely: evens: fairly unlikely: impossible

.....

---

18. How many pens should I add to the original pencil case so that it is equally likely to select a pen or a pencil?

.....

---

19. This diagram shows the results of a class survey concerning pets.

	Boys	Girls	Totals
Have at least 1 pet	11		
Have no pets		8	
Totals	16		30

How many children have at least one pet?

.....

For questions 20, 21 and 22 consider this number pattern.

3 7 11 15 19

20. Which number is NOT prime?

.....

---

21. Which number is a factor of 28?

.....

---

22. What is the next number in the pattern?

.....

---

23. Robbie saves £3.50 every week. How much does he save in a year?

£.....

---

24. A giant size toy box contains 400 bricks. How many bricks will there be in 36 boxes?

.....

For questions 25 and 26 use the information provided in this box.

NEWTON'S MANOR	
Opening Hours	Prices
SAT: 9 till 5	Adult: £2.40
SUN: 1 till 5	Child: £1.60
WEDS &	
FRI: 2 till 5	Car Park: £1.50

25. For how many hours is it open each week?

.....hours

---

26. How much change would there be from a £20 note for Alice, Owen, Mum, Dad and Gran if they use the car park?

£.....

---

27. a * b means multiply the two numbers together and then subtract the larger.
So 4 * 6 = 24 – 6
= 18
Find the value of 8 * 3.

.....

---

28. How many quarters are there in 3½?

.....

---

29. Give a decimal number lying between 7.2 and 7.3.

.....

---

30. State a compass direction that is perpendicular to South West.

.....

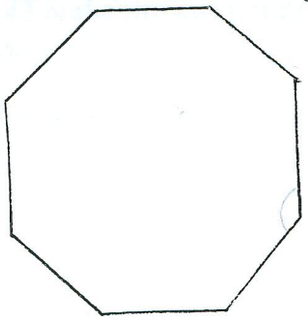
---

31. One inch is about 2.5 centimetres. How many inches are roughly equal to 1 metre?

.....

For questions 32to 35 consider this drawing of a regular polygon.

NOT TO SCALE



32. What is the exact name of this polygon?

.....

33. How many lines of symmetry does it have?

.....

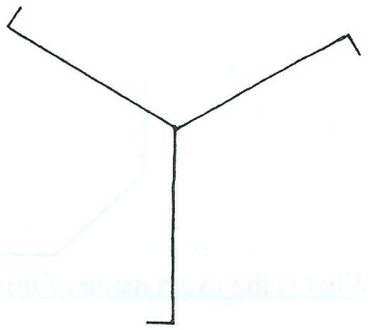
34. If each side is 6 centimetres long calculate the perimeter.

.....cm

35. The angles are all the same size, because it is regular. What is the special name given to an angle of this size?

.....

For questions 36 and 37 use this shape.



36. What is the order of rotational symmetry of this shape?

.....

37. How many lines of symmetry has this shape?

.....

38. This diagram illustrates a survey into theme park rides.

Galaxy	⊞ ⊞ ⊞ ▫	65
Laser	⊞ ⊞ ▯	50
Roller-coaster	⊞ ⊞ ⊞	60
Spaceship	⊞ ⊞ ▯	

How many people favoured "the Spaceship"?

.....

For questions 39 to 43 make the most appropriate choice from this list to describe the chances.

impossible: very unlikely: unlikely: as likely as not: likely: very likely: certain

39. When thrown a coin will show heads.

.....

---

40. A bicycle will have two wheels.

.....

---

41. A boy selected at random from Year 7 will have red hair.

.....

---

42. An ordinary dice will show a number below ten.

.....

---

43. A card selected from a normal pack of playing cards will not be black or red.

.....

---

44. £17.20 ÷ 10.

£.....

---

45. A calculator is used to divide £17.20 by 8. The display shows 2.15. How much is £17.20 ÷ 8?

£.....

---

46. A calculator is used to divide £17.20 by 9. The display shows 1.91111111. How much is £17.20 ÷ 9, to the nearest penny.

£.....

---

47. List all the factors of 36.

.....

---

48. One day in January only 55% of a class of 40 children were present at school. How many pupils were present?

.....

---

49. The following day 24 pupils were present, out of 40. Write this as a percentage.

.....

---

50. Owen did not understand a problem properly. He multiplied by 100 when he should have divided by 100. His answer was 62 800 000. What should his answer have been?

.....