PiAcademy

11+ Mathematics
GL Style - Pack 3
Test Paper - 10

Instructions:

1. The time allowed is 50 minutes for 50 questions.

2. This is a multiple-choice test and each question carries 1 Mark.

3. Answers should be clearly marked in pencil on the provided answer sheet.

4. Do not turn over the booklet until you are told to do so.

5. No Marks are lost for an incorrect answer.

6. If you have marked the wrong answer, erase it and mark the new one. Make sure that your final answer is clear

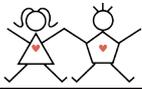Symbols used:

Go to the next page.

Do not turn the page until told to do so.

Stop working and await instructions.

1

Phoebe bought a dozen eggs for 60p per egg.
She paid with a £10 note. How much change did she receive?

[A] 80p   [B] 400p   [C] £6.40   [D] £2.80   [E] £9.40

2

Lizzy is facing southeast and she turns 225° clockwise.
What direction is she facing now?

[A] East   [B] North-east   [C] North   [D] West   [E] North-west

3

Which calculation is correct?

[A] 5 x (3 + 4) ÷ 2 = 25   [B] 5 x 3 + 4 ÷ 2 = 25

[C] 5 + 3 x 4 ÷ 2 = 25   [D] (5 x 3 + 4) ÷ 2 = 25
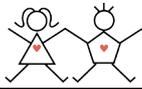
[E] 5 x (3 + 4 ÷ 2) = 25

4

2 black beads and 75 white beads are arranged in a straight line. The number of white beads between the two black beads is 15 less than two times the number of white beads after the second black bead. How many white beads are there between the two black beads?

⬤ White beads   ⬤ White beads
1   **2**

[A] 73   [B] 60   [C] 45   [D] 35   [E] 30

5 A car servicing company charges £54.60 per car plus VAT at 5%. What is the total cost of servicing a car?
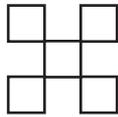
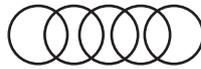[A] £56.54   [B] £57.33   [C] £57.60   [D] £53.64   [E] £56.00

6 Which of the shapes given below has a rotational symmetry of order 5?
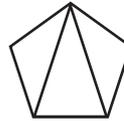
[A]   [B]   [C]   [D]   [E]

7 In a company, there are 251 employees, 15 managers and 1 CEO. Each floor in the office building contains enough rooms for 25 people. The office building accommodates all the people in the company. What is the least number of floors in the office building?
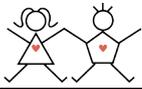
[A] 10   [B] 17   [C] 12   [D] 11   [E] 16

8 Granny puts four £1 coins in each sock as Christmas presents for her grandchildren. After filling 7 pairs of socks, she is left with four £1 coins. How many £1 coins did Granny start with?

[A] 60   [B] 56   [C] 32   [D] 52   [E] 24

9

Gordon is preparing ginger cookies for a party. The list shown below makes 20 cookies.
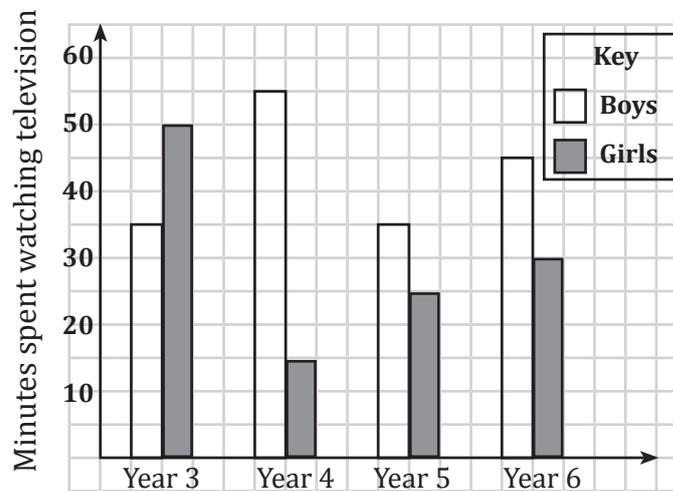
Ingredients	Amount
Butter	150 g
Eggs	2
Flour	450 g
Ground Ginger	30 g
Sugar	200 g

How much ground ginger will Gordon need if he wants to make a total of 16 cookies?

[A] 15 g   **[B]** 20 g   **[C]** 24 g   **[D]** 26 g   **[E]** 28 g
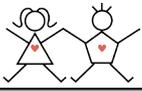
10

Margaret asked some students, how many minutes they spend watching television in a day. The responses are shown in the graph below.

Students of which year watched television for the longest time in total?

[A] Year 3   **[B]** Year 4   **[C]** Year 5

[D] Year 6   **[E]** Both Year 3 and Year 4

11 Jackson uses the following number sentence to solve a question in his maths test.

$3400 \div 17 = 200$

Which of the following could be the question on his test?

[A] Samuel buys 17 mobiles phones each costing £3400. How much did he spend in total in pence?

[B] Samuel buys 17 shirts. The cost of each shirt is £34. How much money did he spend in total in pence?

[C] Samuel cuts a 34 metre long ribbon into 17 equal pieces. What is the length of one small piece in cm?

[D] £200 are to be distributed equally between 17 people. How much does one person receive?

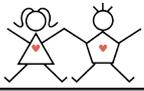[E] Samuel spends £34 on 2 toys. How many pounds does one toy cost?

12 Gloria has some balls in a bag. 6 of the balls are ping pong balls, 8 of the balls are cricket balls and the rest are tennis balls.

She takes out a ball at random from the bag. If the probability of the ball being a tennis ball is $\frac{3}{10}$ what is the total number of balls in the bag?

[A] 12   [B] 14   [C] 8   [D] 6   [E] 20

13 Joanna visited her Church on 13th January 2020 which was a Monday. She decided to visit there again after 60 days. What will be the date and day after 60 days?

[A] February 13th and Monday

[B] April 13th and Friday

[C] March 13th and Friday

[D] February 12th and Sunday

[E] March 12th and Friday

14 Observe the number sequence given below.

$$5000, 100, 2$$
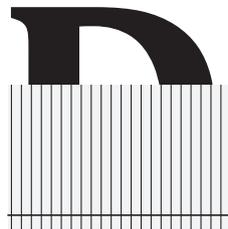
What is the next number in the sequence?

[A] 0.25   [B] 0.04   [C] 0.50   [D] 0.025   [E] 0.4

15 A piece of paper is lying along the line of symmetry of a letter. Which letter is it?
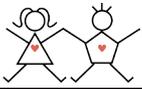
[A] P   [B] R   [C] D   [D] S   [E] O
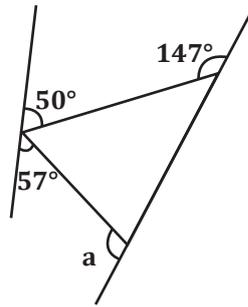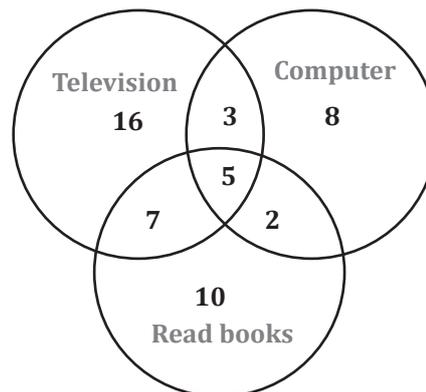
16 What is the size of the angle marked 'a' in the diagram?

[A] 33°   [B] 73°   [C] 74°   [D] 106°   [E] 220°

17 Students in a class were asked how they like to spend their holidays- watching television, playing games on the computer or reading books. The responses of the students are recorded below.

How many students like to watch television and read a book?

[A] 7   [B] 11   [C] 12   [D] 33   [E] 38

18 Brendon thinks of a number. He triples it. He subtracts the number from 50. The answer is 11. What number did Brendon think of?
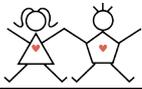
[A] 13   [B] 20   [C] 15   [D] 61   [E] 12

19 Hannah draws a 3D object as pictured below. Identify the shape.
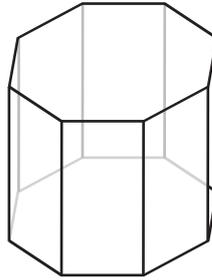
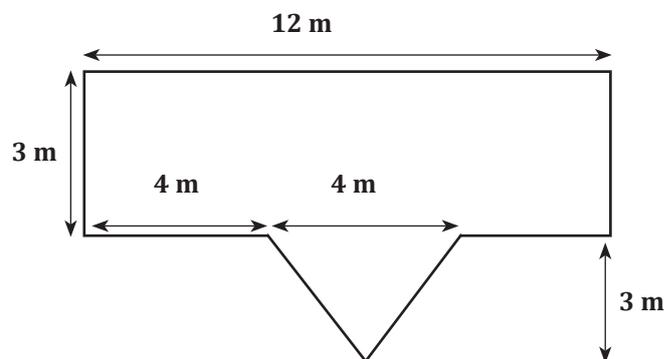**[A]** Pyramid   **[B]** Octagonal Prism   **[C]** Hexagonal Prism

[D] Heptagonal Pyramid   **[E]** Octagonal Pyramid

20 The plan for the stage to be created for the school's play is given below.
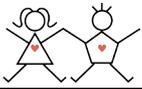

What is the area of the stage?

[A] 48 m²   **[B]** 42 m²   **[C]** 36 m²   **[D]** 26 m²   **[E]** 30 m²

21

2 cartons and 5 jugs can hold 6900 ml of milk. 3 jugs can hold 3600 ml of milk. How much milk do 4 jugs and 5 cartons hold?

[A] 4800 ml   [B] 7050 ml   [C] 2250 ml   [D] 1250 ml   [E] 2100 ml

22

All of the lengths in the diagram are measured in centimetres.

6x - 3

4x + 1

?

6x - 2
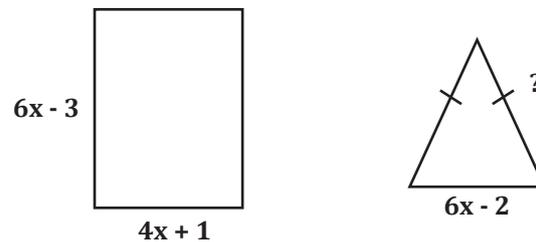
The triangle has the same perimeter as the rectangle.

Find an expression for the length of the side of the triangle marked as '?'

[A] 20x - 4   [B] 10x - 2   [C] 4x   [D] 7x - 1   [E] 14x - 4

23

The length of 3 pens is the same as the length of a 30 cm ruler. How many rulers will have the same length as 36 pens?

```
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
cm
```
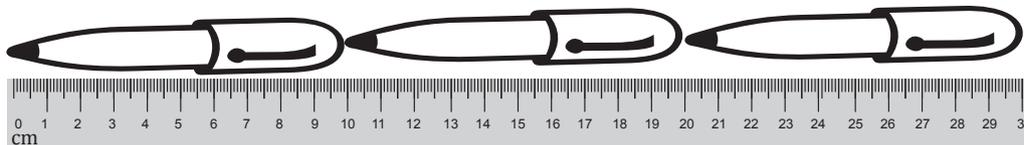
[A] 30   [B] 10   [C] 360   [D] 12   [E] 36
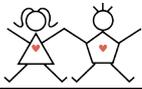
24

Pupils in Year 6 were asked which activity they do after school. The responses are shown in the pie chart below.
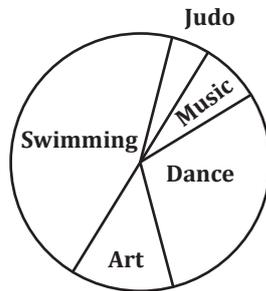
What is the modal activity?

[A] Judo   [B] Music   [C] Dance   [D] Art   [E] Swimming

25

On this scale drawing, the distance from Preston to London is 18 km. What is the distance from London to Birmingham?

[A] 9 km   [B] 12 km   [C] 6 km   [D] 15 km   [E] 10 km
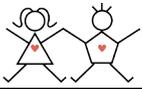
26 Which of the statements given below is true for this shape?
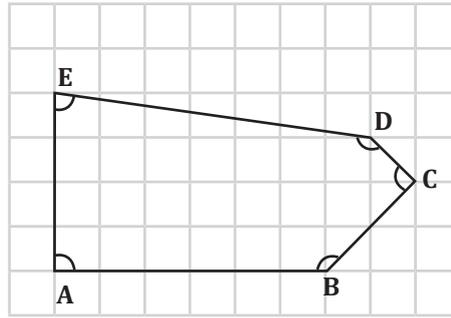
[A] Angle E is equal to angle A

[B] ABCDE is regular pentagon

[C] Angle D is an acute angle

[D] Line ED is parallel to Line AB

[E] Angle C is a right angle

27 Here are the first seven terms in a number sequence.

3, 1, 6, 3, 9, 5, 12, 7 ...

What is the 18th number in the sequence?

[A] 15   [B] 17   [C] 27   [D] 24   [E] 19

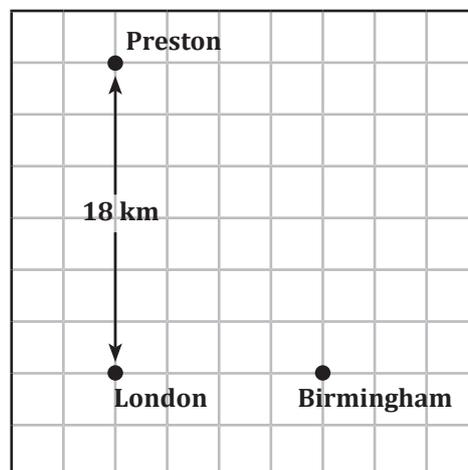**28** The table below shows the monthly rainfall received in London for the years 2018 and 2019. Which month had the greatest difference between the rainfall received in 2019 and the rainfall received in 2018?

Month	2018	2019
June	52 cm	48 cm
July	56 cm	54 cm
August	63 cm	66 cm
September	60 cm	64 cm
October	68 cm	73 cm

[A] June   [B] July   [C] August   [D] September   [E] October
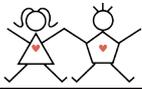
29 In air travel, the weight of the cabin luggage must not exceed 7 kg. Perrie wants to carry her laptop and a few books in her bag. She knows that her laptop weighs 1300 g. How many books can she carry in her cabin bag if each book weighs 700 g?

[A] 6   [B] 7   [C] 8   [D] 9   [E] 10

30 Sherlock and Enola think of two numbers. The sum of their numbers is 39. Both the numbers are factors of 140. What are the two numbers?

[A] 14, 10   [B] 30, 9   [C] 30, 14   [D] 13, 26   [E] 35, 4

31 How many minutes until the time is 3 minutes to 6?

[A] 35 minutes   [B] 37 minutes   [C] 38 minutes

[D] 40 minutes   [E] 43 minutes

32

In a new card game, there are 4 different colours of card. The number of cards of each colour in the pack are given in the table below.

Colour	Red	Black	Green	Blue
No. of Cards	12	6	4	10

If one card is to be drawn from this pack, what is the probability that it will be a red card? Write your answer in the simplest form.

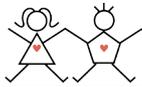[A] $\dfrac{1}{3}$ [B] $\dfrac{3}{16}$ [C] $\dfrac{1}{8}$ [D] $\dfrac{1}{4}$ [E] $\dfrac{3}{8}$

33

A school offers two lunch choices on one day. Students can either eat Chinese or Italian, but not both. One - fifth of all the students eat Italian. How many girls eat Chinese?

	Chinese only	**Italian only**
Boys	70	56
Girls	?	25

[A] 245   [B] 150   [C] 235   [D] 254   [E] 240

34

The amount of water required to water a new plant is given by the formula:

w = h + 2n

Where w is the amount of water in ml, h is the height of the plant in centimetres and n is the number of leaves. Max bought a new plant a few days ago. The height of the plant is 12 cm and it has 8 leaves. How many ml of water does the plant require?

[A] 16 ml   [B] 38 ml   [C] 22 ml   [D] 32 ml   [E] 28 ml
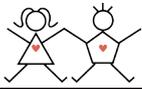
35 A 3 kg packet of rice contains 15 cupfuls of rice. How many grams of rice does a cup hold?

[A] 4500 g   [B] 200 g   [C] 450 g   [D] 20 g   [E] 180 g

36 A rubber ball bounces in such a way that after every bounce it rebounds to 80% of the height from which it fell. The ball was dropped from a height of 100 cm. To what height will the ball rise up to after the third bounce?

[A] 80 cm   [B] 64 cm   [C] 51.2 cm   [D] 40.96 cm   [E] 40 cm

37 Which of these fractions is closest to 0.5?

$$\frac{13}{25} \qquad \frac{11}{20} \qquad \frac{23}{50} \qquad \frac{2}{5} \qquad \frac{27}{45}$$

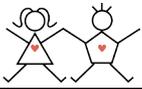[A] $\frac{13}{25}$ [B] $\frac{11}{20}$ [C] $\frac{23}{50}$ [D] $\frac{2}{5}$ [E] $\frac{27}{45}$

38 A frisbee has a radius of 10 cm. What is the area of the frisbee?
Take $\pi = 3.14$.

[A] 314 cm²   [B] 78.5 cm²   [C] 62.8 cm²   [D] 31.4 cm²   [E] 6.28 cm²

39 At a party, a tank is filled with 5 litres of juice. 6 people come and fill up each of their glasses with the juice. Then one more litre of juice is added into the tank. The capacity of a glass is 300 ml. How much juice is left in the tank?

[A] 5300 ml   [B] 3200 ml   [C] 4200 ml   [D] 2200 ml   [E] 520 ml

40 Suzan walks to her salon and back home every day. One morning her mother took her in her car and it only took her 12 minutes to reach the salon. If the average speed of the car was 10 km per hour, find the distance Suzan walks every day.

[A] 2 km   [B] 5 km   [C] 6 km   [D] 4 km   [E] 8 km

41 Charlie did a survey on the number of sanitizing machines at four airports.
The results were recorded in the table shown but the key has been left off the graph.
The total number of Sanitizing machines was 264.

How many Sanitizing machine does [image] represent in the graph?

Airport 1   [5 machines]

Airport 2   [4½ machines]

Airport 3   [5½ machines]

Airport 4   [7 machines]
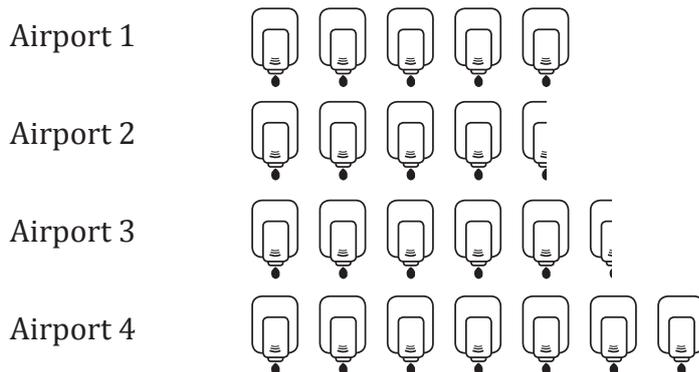
[A] 8   [B] 4   [C] 16   [D] 12   [E] 20
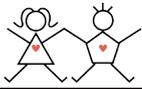
42

This is a chess board. A black pawn is placed on G1 and a white knight is placed on A7 at the start of the game. Which square lies exactly halfway between these two pieces?
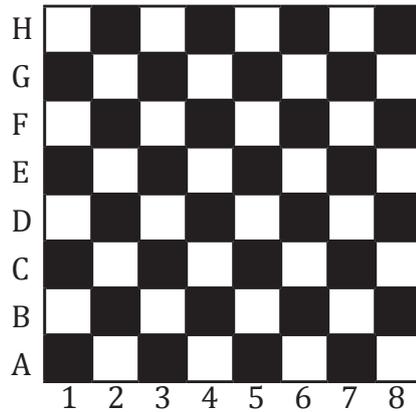
[A] E3 **[B]** C4 **[C]** D4 **[D]** E4 **[E]** C3

43

Estimate the weight of a pen.

[A] 8 kg **[B]** 800 g **[C]** 8 g **[D]** 80 kg **[E]** 8 mg

44

Abby wants to frame a photograph with dimensions 20 cm by 30 cm. The frame she chooses fits the photo exactly and the frame itself has a uniform width all the way round. If the outer perimeter of the frame is 124 cm, what is the width of the frame?
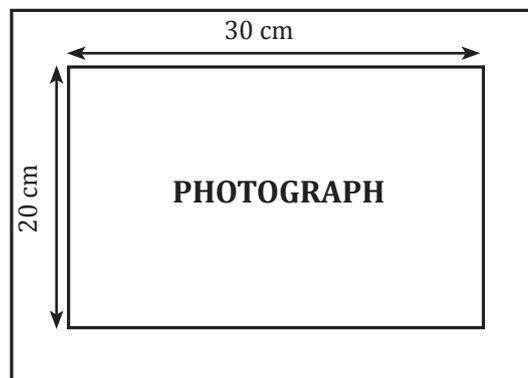
[A] 6 cm **[B]** 3 cm **[C]** 8 cm **[D]** 4 cm **[E]** 2 cm

45 The number of straight lines that can be drawn out of 10 points of which 4 are collinear is

[A] 30 　　　 [B] 40 　　　 [C] 50 　　　 [D] 25 　　　 [E] 20

46 Mandy, Angie and Paula have their heights in the ratio 17:28:15. If Angie is 65 cm taller than Paula, how tall is Mandy?

[A] 93 cm 　　 [B] 80 cm 　　 [C] 87 cm 　　 [D] 30 cm 　　 [E] 85 cm

47 A set of 6 numbers have a mean, mode and range of 14, 13 and 6 respectively. All the numbers are multiplied by 5. What is the mean, mode and range of the new set of numbers?

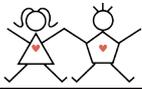[A] 70, 65, 6 　　 [B] 14, 65, 6 　　 [C] 70, 13, 30 　　 [D] 70, 65, 30 　　 [E] 14, 13, 6

48 Green kiwis are sold in boxes of 3 at a price of 80p per box. Yellow kiwis are sold in boxes of 4 at a price of 100p per box. Diego spent £8.80 buying some boxes of green kiwis and some boxes of yellow kiwis. How many kiwis did he buy in total?

[A] 34 　　　 [B] 16 　　　 [C] 10 　　　 [D] 18 　　　 [E] 42

49

A function machine takes an input, subtracts 11 and then multiples the result by -3.

input $\longrightarrow$ | -11 | $\longrightarrow$ | x - 3 | $\longrightarrow$ output

Find the input when the output is 102.

[A] 34   [B] -12   [C] -34   [D] -23   [E] 45
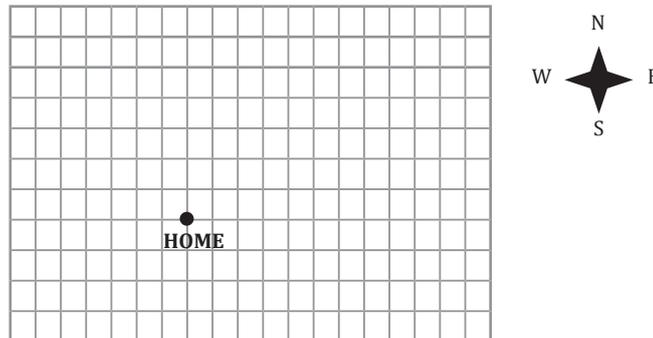
50

Joe visits his favourite shopping store by travelling 6 km North then 5 km West starting from home. He records his trip as 6N, 5W. Which of these trips takes Joe home again?

[A] 3S, 2E, 3S, 2E   [B] 2S, 3E, 4S, 2E

[C] 4S, 3N, 2E, 2W   [D] 4N, 3E, 2S, 4N

[E] 3S, 2E, 2S, 4E

Visit piacademy.co.uk/11-plus-papers to check the 'answers'

11+ Maths - GL Style (Pack 3) - Test Paper 10
ANSWER MARKING SHEET

Name:

Date:

School Name:

Please mark boxes with a thin horizontal line like this - ▭ .

1	2	3	4	5	6	7	8	9	10
A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E

11	12	13	14	15	16	17	18	19	20
A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E

21	22	23	24	25	26	27	28	29	30
A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E

31	32	33	34	35	36	37	38	39	40
A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E

41	42	43	44	45	46	47	48	49	50
A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E	A B C D E

For Parents use only

Marks Scored: -------------------------------- **Time taken:** ----------------------------

Comments: ---