CSSE

The Consortium of Selective Schools in Essex

MATHEMATICS PAPER
FOR 2015 ENTRY – TEST 2

Name: _____

Candidate Number: _____

Primary School: _____

Boy or Girl: _____

Date of Birth: _____

Today's Date: _____

Test Taken At: _____

READ THE FOLLOWING CAREFULLY:

1. **Do not open this booklet until you are told to do so.**
2. You may work the questions out in your head, or by writing on the white area around the question.
3. **Work as quickly and as carefully as you can.**
4. Make any alterations to your answers **clearly.** You will not lose marks for crossing out.
5. You will have **60 minutes** to do the test. If you find you cannot do a question, **do not waste time on it but go on to the next one.**
6. **Once the test has begun, you should not ask about questions in the test.**
7. **The use of electronic calculators of any description (including calculator watches) is NOT permitted.**

NOT TO BE FILLED IN BY PUPIL		
PAGE	SCORE	
	R	W
1 (7)		
2 (7)		
3 (5)		
4 (7)		
5 (4)		
6 (6)		
7 (3)		
8 (4)		
9 (3)		
10 (6)		
11 (6)		
12 (2)		
TOTAL (60)		
INITIALS OF MARKER(S)		

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You have sixty minutes to complete this paper.
Do your working out in the spaces on the paper.

Question (and working space)	ANSWER	Please do not write in this space

1 Natasha is looking at a set of numbered cards.

13	25	27	41
18	26	37	49

(a) Which two numbers have a difference of 10?

☐ and ☐

(b) What is the largest total that can be made adding two cards?

(c) Which two numbered cards add to make 44?

☐ + ☐

(d) Which two numbered cards can be added to make 62?
This can be done using **two** different pairs.

☐ + ☐
or
☐ + ☐

(e) Which card is the largest multiple of 3?

(f) What is the total of the three *prime* numbered cards?

R
W
(7)

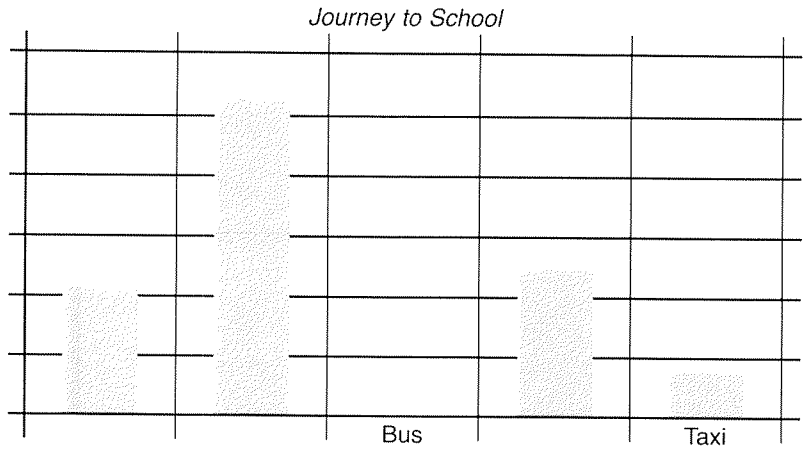
Question (and working space)	ANSWER	Please do not write in this space
2 (a) What number must be added to 6·4 to make 10?		
(b) What number must be added to 5·37 to make 6?		
(c) What is the difference between 6·4 and 7·28?		
3 (a) Anna is 3 years younger than Brian. Brian is 7 years older than Callum. How much older is Anna than Callum?		
(b) Derek is 15 years old. His Dad is three times his age. Derek's brother, Dave, is six years younger than him. How many times older is Dad than Dave?		
(c) Emily is one quarter the age of her Aunt Ingrid. Their ages total 60. How old is Emily?		
(d) Sanjay is two years younger than Sara, who is five years older than Sasha. Sanjay's age and Sasha's age total to 31. How old is Sara?		R W (7)

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Question (and working space)

Please do not write in this space

4 A class carried out a survey on journeys to school.
The table and the bar chart have not been completed.



Taxi	4
Walk	
	15
Bike	27
Car	11
TOTAL	**70**

ANSWER

(a) On the bar chart add the three missing labels under the axis.

(b) Complete the scale on the bar chart adding six values to the axis.

(c) In the table add the missing category.

(d) In the table add the missing data value.

(e) On the bar chart add the missing bar.

R
W
(5)

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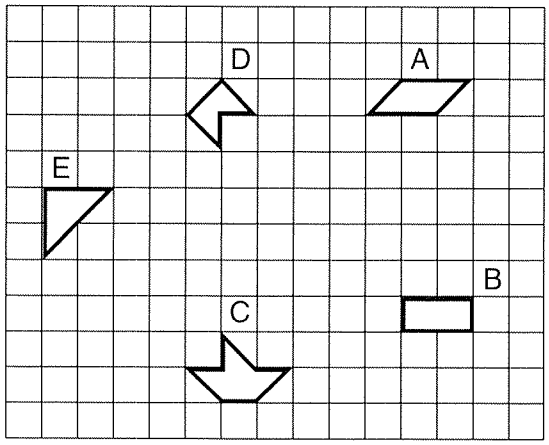
Question (and working space)	ANSWER	Please do not write in this space
5 Fill in the missing numbers in the following statements.		
(a) 25% of 48 = ?		
(b) 25% of ? = 48		
(c) Identify the two **square** numbers that add up to 74. ? + ? = 74		
(d) Identify the two **prime** numbers that add up to 13. ? + ? = 13		
6 Complete the following statements using <, = or >		
(a) (7 x 5) – 4 ☐ 7 x (5 – 4)		
(b) 4 + 7 x 5 ☐ 4 + (7 x 5)		
(c) 4 x 5 + 7 ☐ (5 + 4) x (7 – 4)		

R
W
(7)

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Question (and working space)	ANSWER	Please do not write in this space

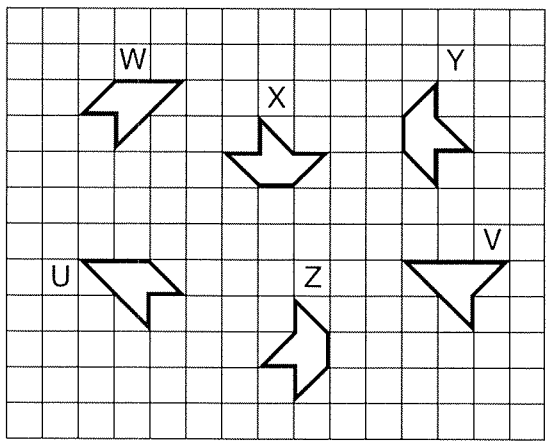
7 The grid shows a variety of shapes: each labelled with a letter.



(a) Which shapes have the same area?

(b) Which shapes have the same perimeter?

The grid shows a different set of shapes: each labelled with a letter.



(c) Which shape has been rotated to create shape X?

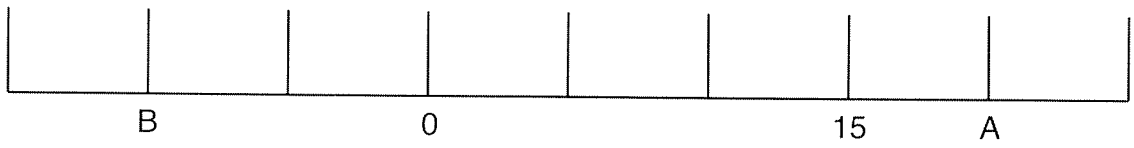
(d) Which shape could have been reflected to create shape Y?

R
W

(4)

Question (and working space)	ANSWER	Please do not write in this space

8 Ola is looking at the scale on a thermometer.



(a) What is the value on the scale at A?

(b) What is the value on the scale at B?

(c) What is the value of A-B?

(d) What is the value of A+B?

9 Dean has four cards.

7	3	1	5

(a) Dean is using each card once to create two digit numbers (for example 37 or 51). What is the difference between the largest number he can make and the smallest?

(b) Dean is using each card once to create four digit numbers (for example 3751). How **many** numbers can he make that are bigger than 7000?

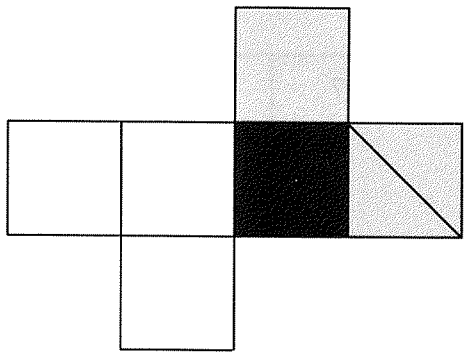
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(6)

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Question (and working space)

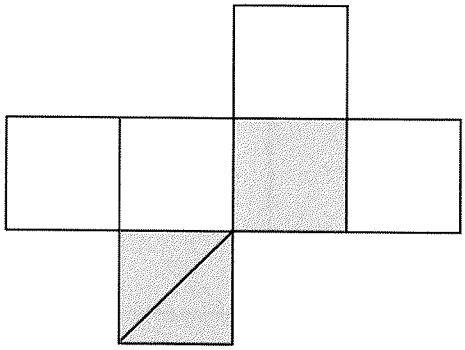
Please do not write in this space

10 Dicky is making a cube from a net. One face is shaded black, one is shaded grey and one is shaded grey with a diagonal line.

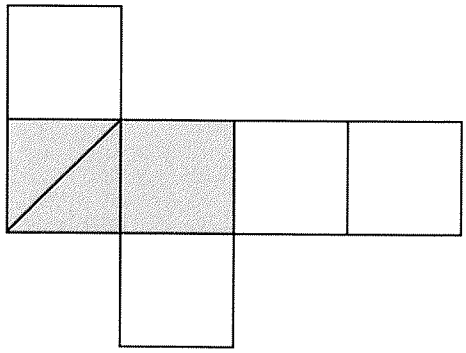


In each part of the question below mark the square on the net that needs to be shaded black *to make the same cube as Dicky's.*

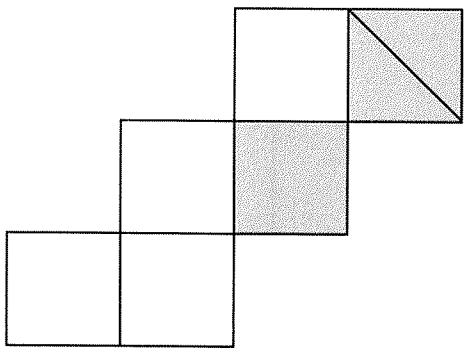
(a)



(b)



(c)



(3)

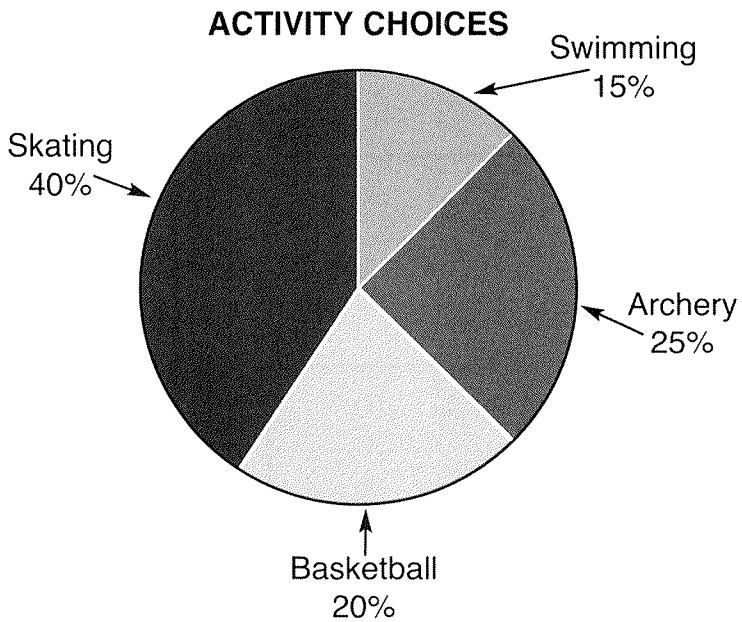
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Question (and working space)	ANSWER	Please do not write in this space
11 TJ is sorting out prices for the snack shop at school, he has a box of 15 chocolate bars. He bought the whole box for £4.05. He plans to sell the bars for 35p each.		
(a) How much money will TJ receive if he sells all 15 bars at 35p?		
(b) How much did TJ pay for each bar when he bought the box?		
TJ also has two types of cereal snacks: raisin bars and nut bars. Each raisin bar is 12p more to buy than a nut bar. Nine raisin bars and twelve nut bars cost £5.28.		
(c) How much more do nine raisin bars cost than nine nut bars?		
(d) How much does a raisin bar cost?		R W (4)

GO TO NEXT PAGE

Question (and working space)	ANSWER	Please do not write in this space

12 Lily is planning an activity weekend with her youth club. She has asked 60 members of the club what they would prefer to do.



In each part of this question, indicate whether the statement about the pie chart is true or false.

(a) True or false? The sector labelled 'archery' is created with a right angle.

(b) True or false? Five more members wanted to do archery than basketball.

(c) True or false? Two thirds of the members wanted to do either skating or archery.

(3)

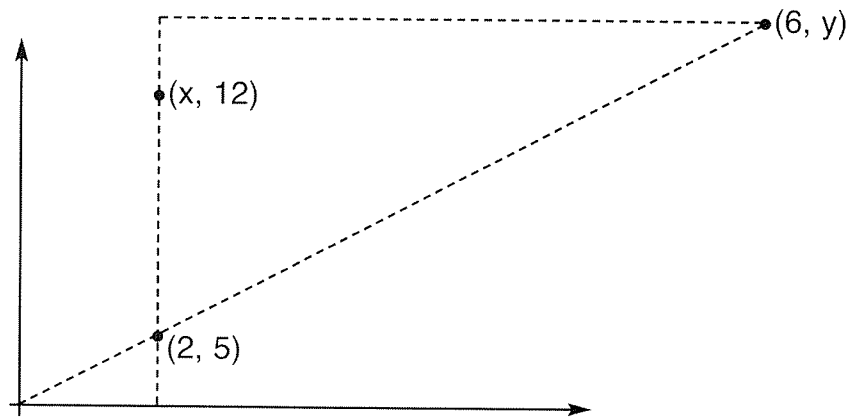
Question (and working space)	ANSWER	Please do not write in this space
13 In each part of this question, write down the value in the list that is the biggest.		
(a) Which is biggest? 0·503, 0·53, 0·35, 0·535, 0·3555, 0·5		
(b) Which is biggest? $\frac{3}{4}$, $\frac{5}{6}$, $\frac{8}{9}$, $\frac{2}{3}$		
(c) Which is biggest? $\frac{1}{4}$ of 21, 50% of 11, $\frac{1}{3}$ of 17		
14 Petrov wants to "listen again" to several shows on the radio and is checking the list of broadcast times.		
(a) How long does the 'Power Hour' show last?		
(b) Petrov downloads and listens to the 'Request Slot' and the 're-mix Revenge' immediately after each other. He starts listening at 1952, what time does he finish?		
(c) What time should Petrov start to listen to the 'Crunch Time' download, if he wants to finish listening at 2015?		R W (6)

FM Ez-Hv 27.5 – 26 September	
1715	Crunch Time
1748	Request Slot
1757	Travel
1800	News on the Hour
1803	Power Hour
1852	Re-mix Revenge
1857	Travel
1900	News on the Hour

Question (and working space)	ANSWER	Please do not write in this space
15 This question concerns the number sequence that is formed starting at '100', then repeatedly following four steps: adding 2, dividing by 2, adding 1, multiplying by 2.		
(a) The first two numbers are 100 and 102. What are the next three numbers in the sequence?		
(b) Which number comes after 108 in the sequence?		
(c) The 21st number is 120 and the 22nd number is 122. What is the 24th number?		
16 Anwar is playing 'think of a number'. He does not always think of whole numbers. In each part of the question work out Anwar's original number.		
(a) Anwar thinks of a number. He doubles it and subtracts 17 from the result. He then has 15. What was Anwar's original number?		
(b) Anwar thinks of a number. He subtracts 17 then doubles the result. He then has 15. What was Anwar's original number?		
(c) Anwar thinks of a number. He halves it and subtracts 17 from the result. He then has 15. What was Anwar's original number?		
		R W (6)

Question (and working space) | ANSWER | Please do not write in this space

17 The diagram shows a grid with the co-ordinates marked for three points.



(a) What is the value of x?

(b) What is the value of y?

END OF TEST (You should have completed 17 questions.)

R
W
(2)

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