

11 + Entrance Examination
Sample Paper 2
Mathematics
Total Marks: 100
Time allowed: 1 hour

Information for parents:

This sample paper has been created for children who are embarking on the 11+ exam.
The questions within the paper follow Level 4-5 of the National Curriculum and cover the majority of the KS2 curriculum.

There is a big variation in the level of difficulty amongst different schools' 11+ papers and this paper is designed to reflect the standard level of entry at 11+.

Full name

- 1i. Fiona buys three apples which cost 50 pence each and a pear costing 42pence.
How much does she pay altogether? (2)
- ii. The next day, she buys a banana and an orange. The banana costs 28 pence. She spends 75 pence altogether. How much does the orange cost? (2)
- iii. That afternoon, Fiona spends £1.26 on three peaches. How does one peach cost? (2)
- 2a. 355 children go on a school trip. Round this number to
- i) the nearest ten (1)
- ii) the nearest hundred (1)
- b. The children travel on a 30-seater coach. How many coaches are need to take all 355 children on the school trip? (2)

3. Here are some numbers

1 3 5 8 9

Using only each number once, pick any 3 to make the following:

Example: the smallest number = 135

a) the largest number (1)

b) the smallest odd number (1)

c) a number divisible by 3 (1)

d) the number closest to 800 (1)

4. Matt has 8 stamps. Two are Australian stamps and the rest are French stamps.

i) What fraction of the stamps are Australian? (1)

ii) What percentage of the stamps are French? (1)

iii) Matt loses 25% of his stamps. How many stamps does he have left now? (1)

iv) With the remaining stamps that Matt has, he gives away 4. How many does he have now? (1)

5. Five friends measured their height and recorded their results in this table.

Name	Height
Julie	1.1m
Sam	1.4m
John	1.03m
Kay	95cm
Richard	1.16m

i) Who is the tallest friend? (1)

ii) How much taller is Richard than Kay? (1)

iii) Find the range of heights (1)

iv) The following year, Kay grows by 20cm, how tall is she now? (1)

6. Jane thinks of a number. She multiplies it by 3 and then adds 5.

a) The answer is 20, what was her original number?

(1)

b) Using the same rule (multiplying a number by 3 and then adding 5), she comes up with 8 as her answer, what is the starting number? (1)

c) Using the same rule, Jane starts with 0, what should her answer be? (1)

7.

a) $58 + 16 = 24 + ?$ (1)

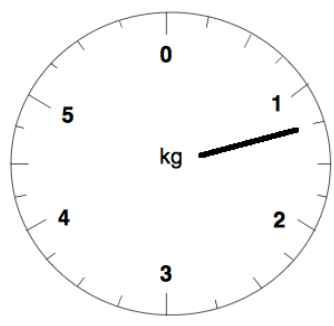
b) $47 - 39 = 28 - ?$ (1)

c) $40 \times 10 = 4 \times ?$ (1)

d) $5000 \div 100 = 500 \div ?$ (1)

8. Julie has 5 books and 2 water bottles in her bag. She puts her bag on a scale.

a. How much does her bag weigh?

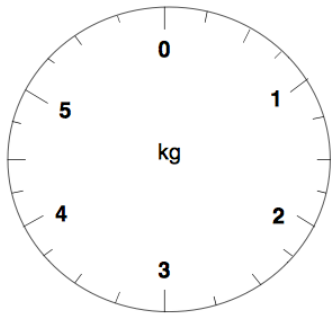


(1)

b. Each water bottle weighs 200g. How much does 1 book weigh?

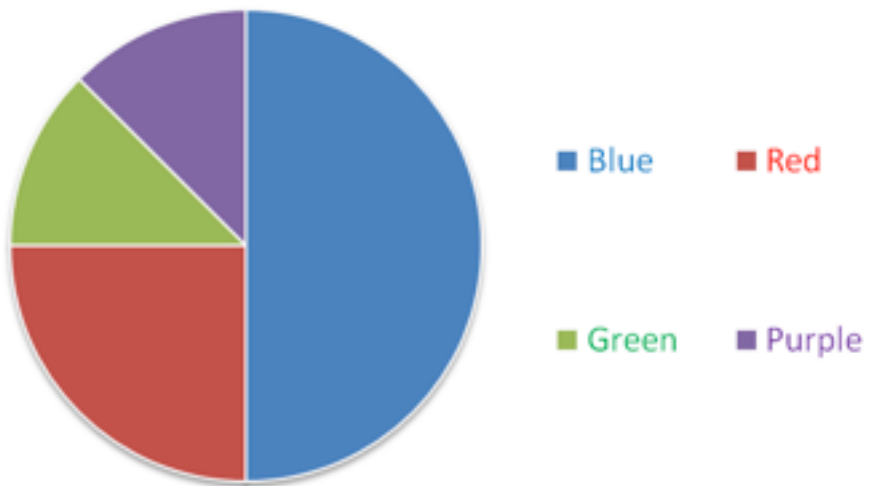
(2)

c. Julie now takes out 3 books from the bag. Draw an arrow on the scale to indicate how much her bag now weighs.



(2)

9. The 40 children in Year 6 took part in a survey to find out what their favourite colours were



a. What was the most popular colour?

(1)

b. How many children's favourite colour was red?

(1)

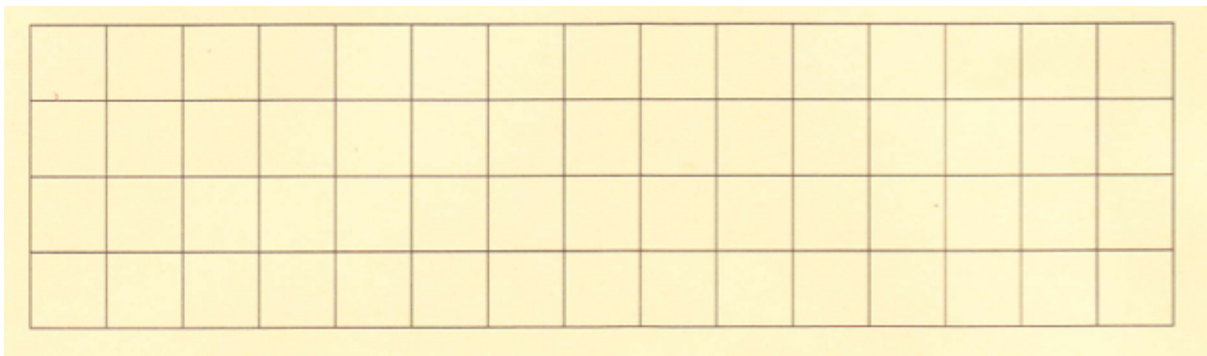
c. How many more children liked red than green?

(1)

10. On each grid below, draw a different shape with an area of 12cm^2 . The lengths of the sides must be whole numbers. Write its perimeter on the line underneath the grid.



Perimeter _____ (2)



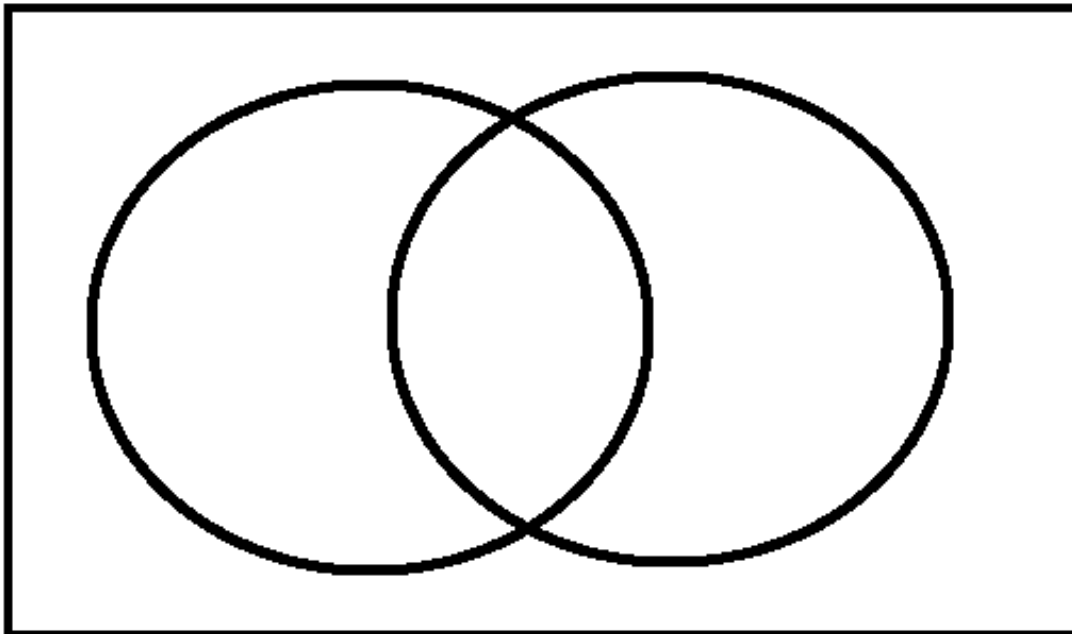
Perimeter _____ (2)

On the grid below, draw a shape with an area of 10cm^2 and a perimeter of 14cm

(3)

11. 20 children were asked whether they liked football or hockey. Here are the results:
every child liked at least one of the sports
8 children liked football and hockey
13 children liked football

a. Complete the Venn diagram to illustrate the results given



(3)

b. How many children liked hockey?

(2)

12. A bag of 100 mixed sweets contains jelly beans, chocolate drops and mints. The label on the packet reads:

There are about 3 times as many chocolate drops as mints

There are 2 jelly beans for every chocolate drop

From the information above, decide if the statements below are true or false

a. There are the same number of each type of sweet in the bag (1)

b. More than half of the sweets are likely to be chocolate drops (1)

c. There are the same number of jelly beans as chocolate drops (1)

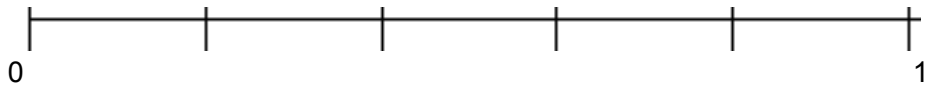
d. There are half as many mints as jelly beans (1)

e. I pick a sweet out of the mixed bag of 100 sweets. On the scale below, mark with a cross the probability that I pick a jelly bean



(2)

f. Now on the scale below, mark with a cross the probability I pick a chocolate drop out of the bag?



(2)

13. In the grid below, each shape represents a number. The numbers shown are the total of the line of 4 numbers in the row or column. Find the remaining total and write them in the empty boxes

				<input type="text"/>
				25
				20
				<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	26	

(5)

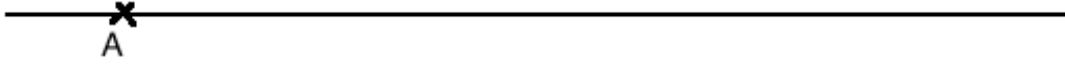
14. Draw accurately triangle ABC in which

$$AB = 10\text{cm}$$

$$AC = 8\text{cm}$$

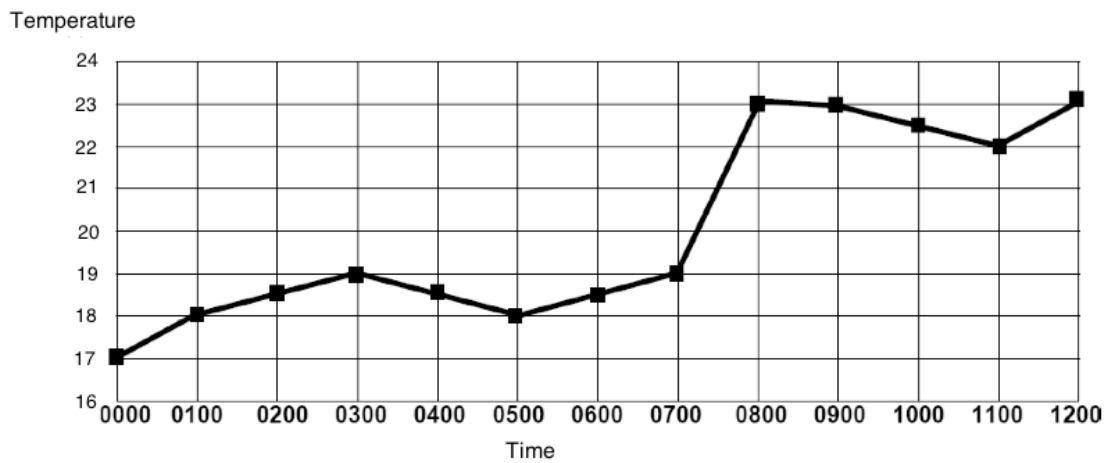
$$\text{And angle CBA} = 45^\circ$$

Point A has already been drawn for you



(3)

15. This graph shows the temperature in a room over a 12 hour period.



a. What was the temperature at 4am?

(1)

b. For how long was the temperature between 18-19 degrees

(1)

c. During which hour was there the greatest change in temperature?

_____ and _____

(1)

d. What was this change?

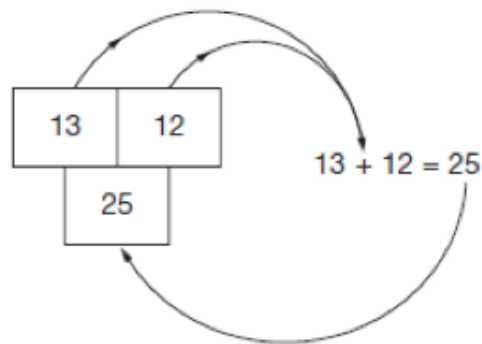
_____ degrees

(1)

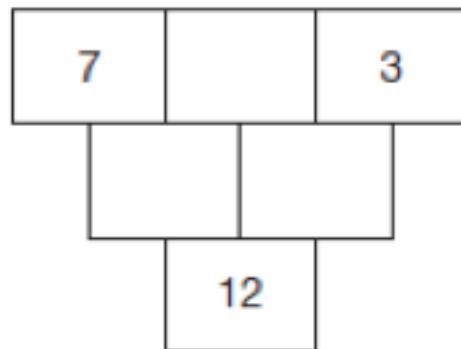
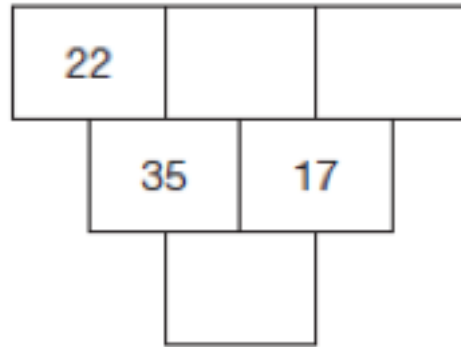
e. Why do you think there was a large rise in temperature during 7-8am?

(2)

16. In these number grids, 2 numbers are added together to make the number below, as shown in the example:

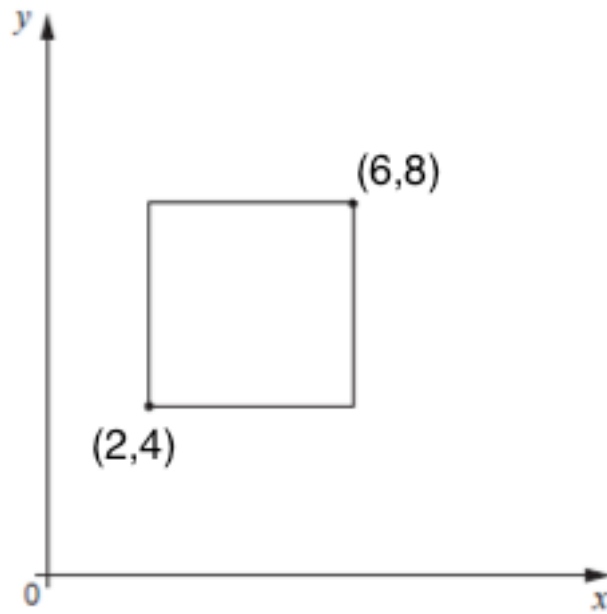


a. Fill in the missing numbers in the number grids below



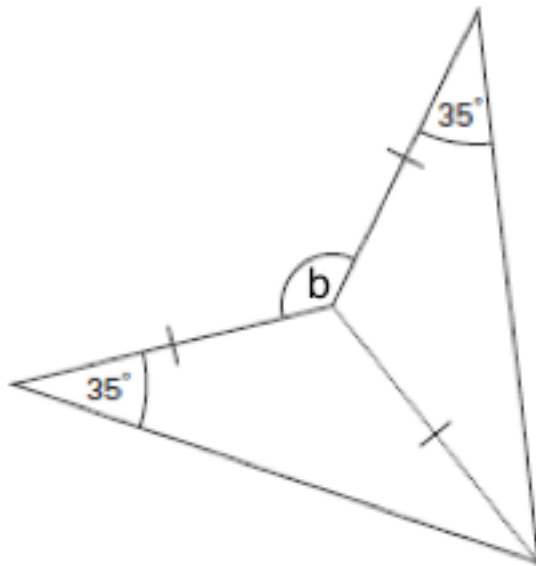
(6)

17. Look at the square in the grid. The co-ordinates of 2 points of the square are already given. Work at the co-ordinates of the remaining 2 corners of the square. Write these on the grid.



(4)

18. This shape below is made from 2 identical **isosceles** triangles. Work out the angle of b.



Not drawn
accurately

$b =$ _____

(4)

19. Look at the calculations below. Write the correct digits in the boxes.

$$\begin{array}{|c|c|c|} \hline 4 & 3 & \\ \hline \end{array} + \begin{array}{|c|c|c|} \hline 2 & & 8 \\ \hline \end{array} = \begin{array}{|c|c|c|} \hline & 7 & 5 \\ \hline \end{array}$$

Using the 6 cards below, arrange them to make these calculations.



For example:

$$939 = \underline{4} \underline{2} \underline{3} + \underline{5} \underline{1} \underline{6}$$

$$579 = \underline{\quad} \underline{\quad} \underline{\quad} + \underline{\quad} \underline{\quad} \underline{\quad} \quad (3)$$

$$975 = \underline{\quad} \underline{\quad} \underline{\quad} + \underline{\quad} \underline{\quad} \underline{\quad} \quad (3)$$

$$660 = \underline{\quad} \underline{\quad} \underline{\quad} + \underline{\quad} \underline{\quad} \underline{\quad} \quad (3)$$

11 + Entrance Examination

Sample Paper 2
Mathematics Marking Scheme

Total Marks: 100

- 1i. 192p or £1.92
- ii. 47p
- iii. 42p or £0.42
- 2a i. 360
- ii. 400
- b. 12 coaches
- 3a 985
- b 135
- c. Multiple possible answers (eg. 135, 531, 315 etc.)
- d. 813
- 4i $\frac{1}{4}$
- ii. 75%
- iii. 6 left
- iv. 2
- 5i. Sam
- ii. 21cm or 0.21m
- iii. 45cm or 0.45m
- iv. 115cm or 1.15m
- 6a. 5
- b. 1
- c 5
- 7a 50

- b. 20
- c. 100
- d. 10
- 8a 1.25kg or 1250g
- b 170g

c

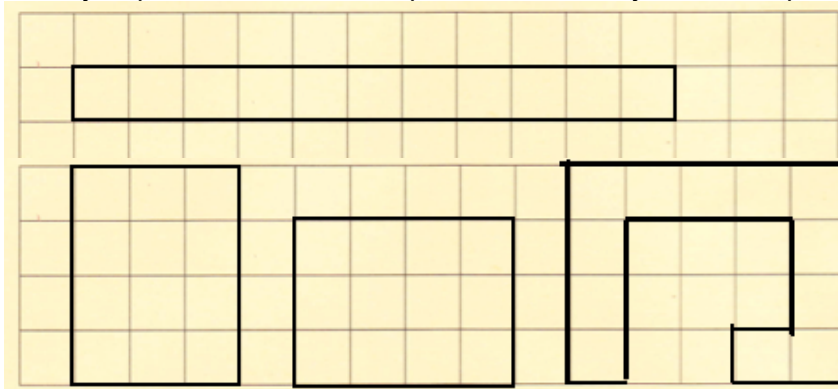


510g. Arrow should be pointing somewhere between 500-520 mark.

- 9a Blue
- b 10
- c 5

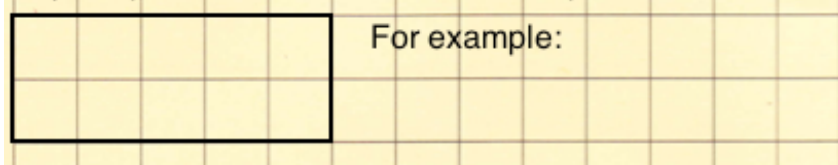
10 Variety of possible answers so perimeter will vary. For example:

a,b.

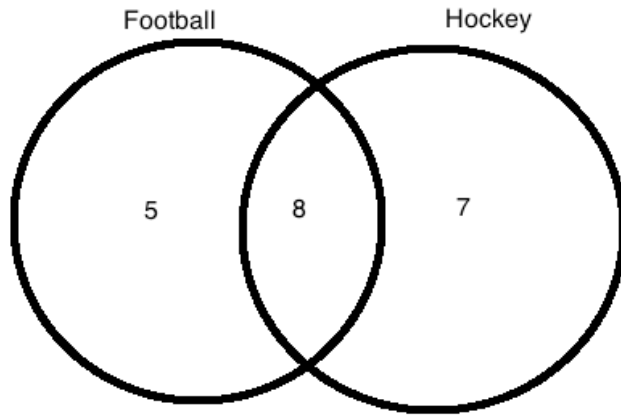


c

Any shape with an area of 10cm² and perimeter of 14cm.



11a.



b. 15

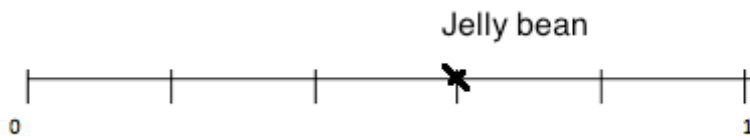
12a False

b False

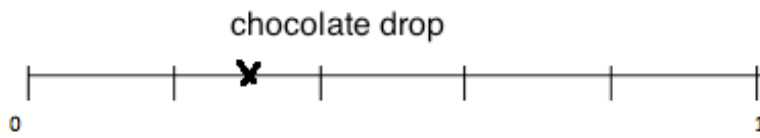
c False

d False

e



f



13

▲	♣	▲	●	27
♣	●	♣	▲	25
●	●	●	●	20
▲	♣	♣	▲	28
27	22	25	26	

14 Accurately drawn triangle with a 2mm/ 2 degree allowance for the measurements.

15a 18.5 degree

b 01:00- 07:00 = 6 hours

c 0700 and 0800

d 4 degrees

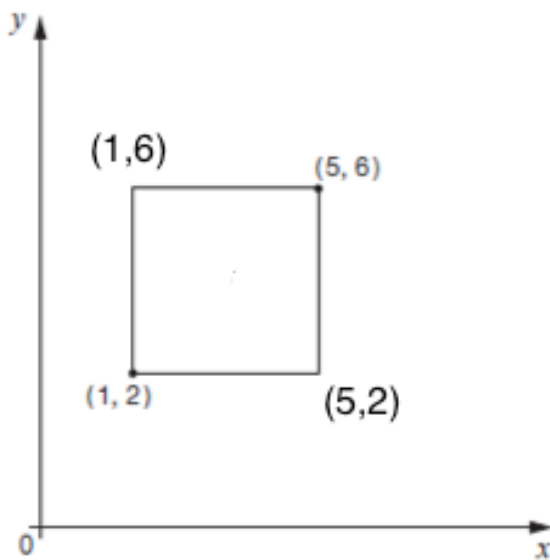
e Any reasonable answer eg. The heating came on / sun came up.

16.

22	13	4
35	17	
52		

7	1	3
8	4	
12		

17.



18 $b = 140$ degrees

19 $579 = 123 + 456$ or vice versa
(some digits may also be swapped around. Eg. $1\underline{5}3 + 4\underline{2}6$)

$975 = 321 + 654$ or vice versa
(some digits may also be swapped around)

$660 = 124 + 536$ or vice versa
(some digits may also be swapped around)