



## KING HENRY VIII SCHOOL

# Entrance Examination

## 11+ SAMPLE PAPERS

### Mathematics Paper

**Read the following carefully.**

Do not open this booklet until you are told to do so.

Answer as many questions as you can.

Write your answers in the spaces provided.

**Any necessary working should be written in the available space:** there is extra space at the end of this booklet if you require it. You may not use a calculator.

**Make alterations clearly.**

If you cannot do a question, leave it and go to the next: you may return later, if you wish, to any question you left out.

You will have 45 minutes for this paper and will be told the time every 15 minutes as follows:

1. 15 minutes gone
2. 30 minutes gone, 15 minutes remain
3. Time, Stop writing

1. Work out  $953 + 1065$

Ans: .....

2. Work out  $2018 - 314$

Ans: .....

3. Work out  $628 \times 5$

Ans: .....

4. Work out  $3102 \div 6$

Ans: .....

5. Work out  $2018 - 786$

Ans: .....

6. Work out  $882 \div 14$

Ans: .....

7. Work out  $548 - 45 + 23 - 107$

Ans: .....

8. Work out  $72 \times 43$

Ans: .....

9. Work out  $\frac{6}{17} + \frac{3}{17}$

Ans: .....

10. Work out  $3\frac{5}{9} + 6\frac{4}{9}$

Give your answer in its simplest form.

Ans: .....

11. Write this number in **figures**:

**three hundred and nine million, two hundred and one thousand and ten**

Ans: .....

12. Write  $\frac{412}{1000}$  as a **decimal**

Ans: .....

13. Write 0.512 as a **fraction** in its lowest terms.

Ans: .....

14. Write down all the **prime** numbers between 50 and 60.

Ans: .....

15. Circle the number with the smallest value

8.05

8.50

8.505

8.055

16. A show starts at 7:30pm. The first half of the programme lasts for 1 hour and 35 minutes, then there is an interval of 8 minutes. When does the second half of the show begin?

Ans: .....

17. I have 625 chocolates to share equally between 9 people.

(a) How many does each person receive?

Ans: .....

(b) How many are left over?

Ans: .....

18. If 9 items cost £6.30, what will be the cost of 11?

Ans: .....

**19.** I have 6 coins in my pocket totalling 99p.

(a) What are those 6 coins?

Ans: .....

(b) I am going to pick one of these coins at random. Assuming that each coin is equally likely to be chosen, what is the probability that I pick a 2p coin? Give your answer as a fraction.

Ans: .....

**20.** When it was his birthday, my uncle Isaac told me: "3 years ago, my age was a square number. Next year it will be a prime number and in 12 years' time, it will be a cube number." How old is Isaac?

Circle the correct age:-

**28**

**39**

**52**

**84**

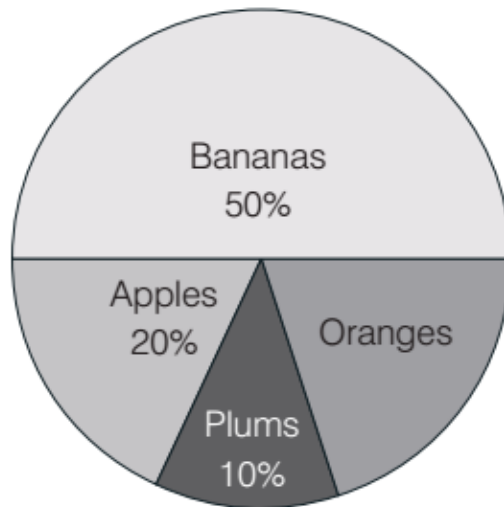


**21.** In a school 6 out of every 11 children are girls. If there are 407 children in the school;

How many boys are there?

Ans: .....

**22.** 210 shoppers are asked about their favourite fruit. The results are in the pie chart below. How many of the shoppers liked oranges?



Ans: .....

23. The time in Japan is 9 hours ahead of London and 1 hour behind Sydney. Using a 24-hour clock, when it is midday in Japan, what time is it in:

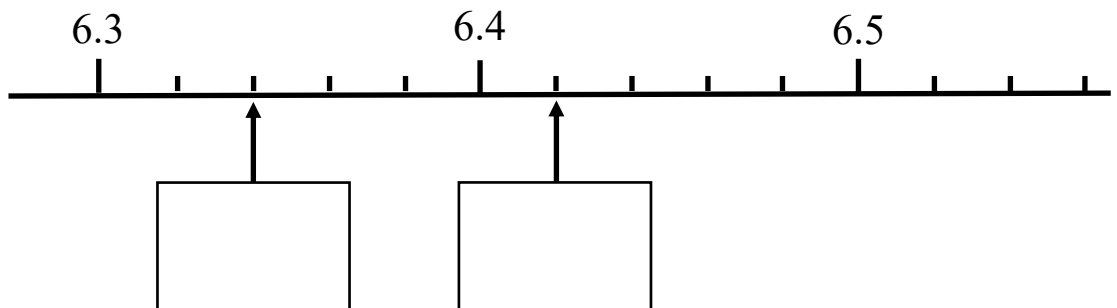
(a) London?

Ans: .....

(b) Sydney?

Ans: .....

24. Fill in the boxes on this number line



25. Here is a recipe for making fruit smoothies.

<p style="text-align: center;"><b>Recipe</b></p> <p style="text-align: center;">10 strawberries <math>\frac{1}{2}</math> litre of orange juice 250ml yogurt 1 banana</p> <p style="text-align: center;"><i>Makes two smoothies</i></p>
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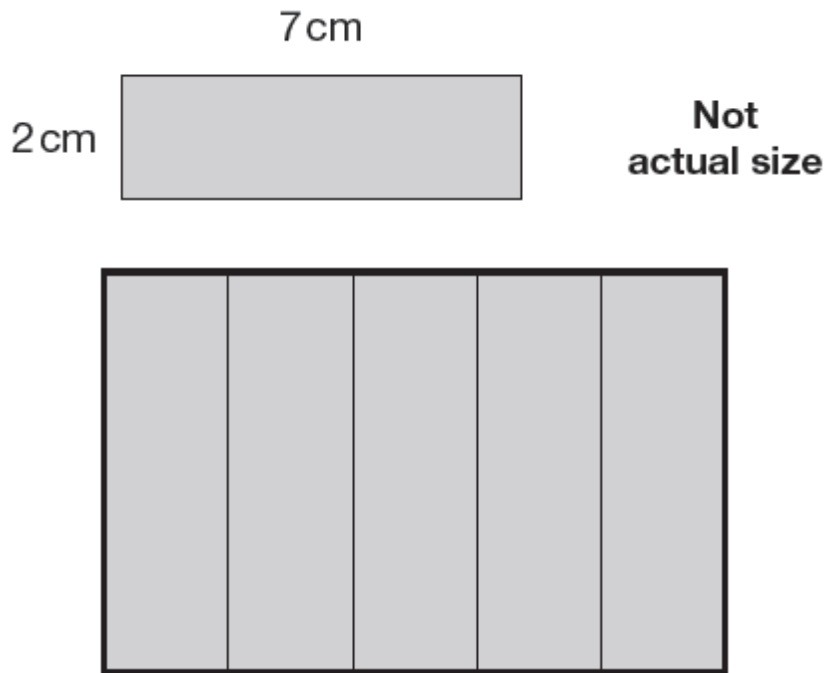
Becky uses the recipe and uses 2 litres of orange juice.  
How much yogurt does she use?

Ans: .....

26. Isabel has some identical rectangles.

They are 7cm long and 2cm wide.

She uses 5 of them to make the large rectangle below.



(a) What is the **PERIMETER** of the large rectangle?

Ans: .....cm

(b) What is the **AREA** of the large rectangle?

Ans: .....cm<sup>2</sup>

27. A greengrocer is selling the following fruits:-

Grapes at £0.84 per kg

Melons at £2.50 each

Nectarines at £0.72 per punnet

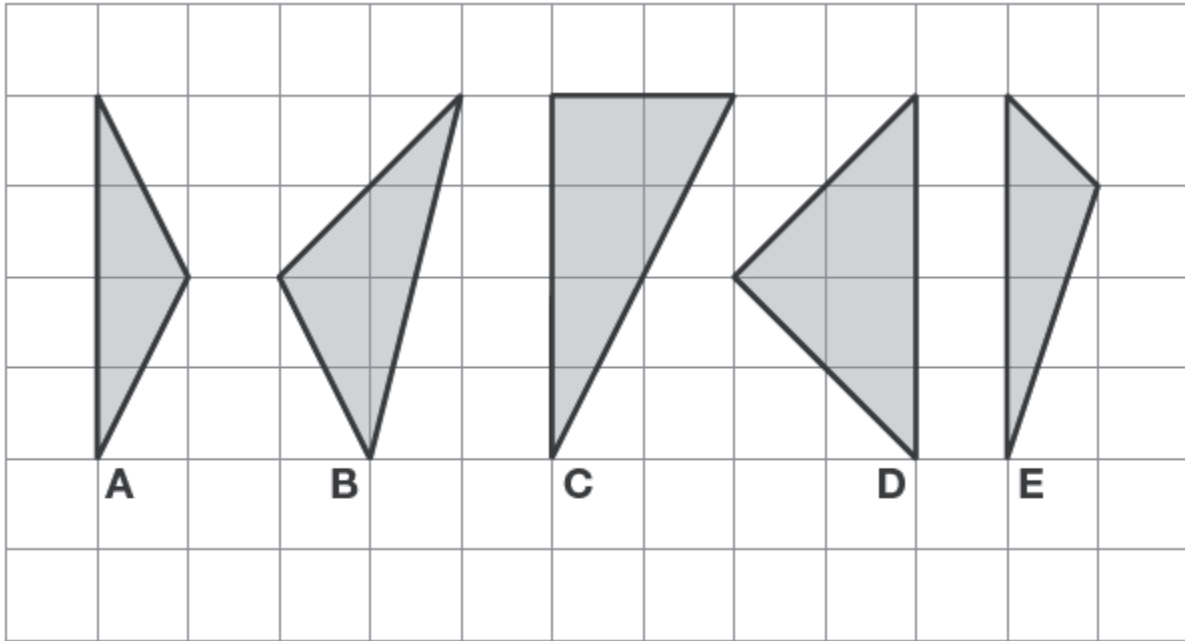
- (a) Lisa buys 2 melon and 5 punnets of nectarines.  
How much does she pay?

Ans: £.....

- (b) Nicola buys 500 grams of grapes and 1 melon.  
How much change does she get from £5?

Ans: £.....

28. Here are 5 shaded triangles on a cm square grid.

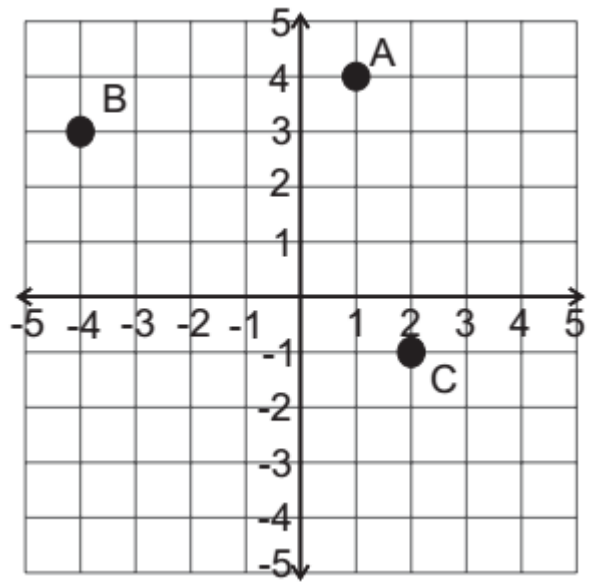


Calculate the area of triangle C and D

Area of triangle C .....cm<sup>2</sup>

Area of triangle D .....cm<sup>2</sup>

29. A, B and C are three corners of a square.  
What are the coordinates of the 4<sup>th</sup> corner?

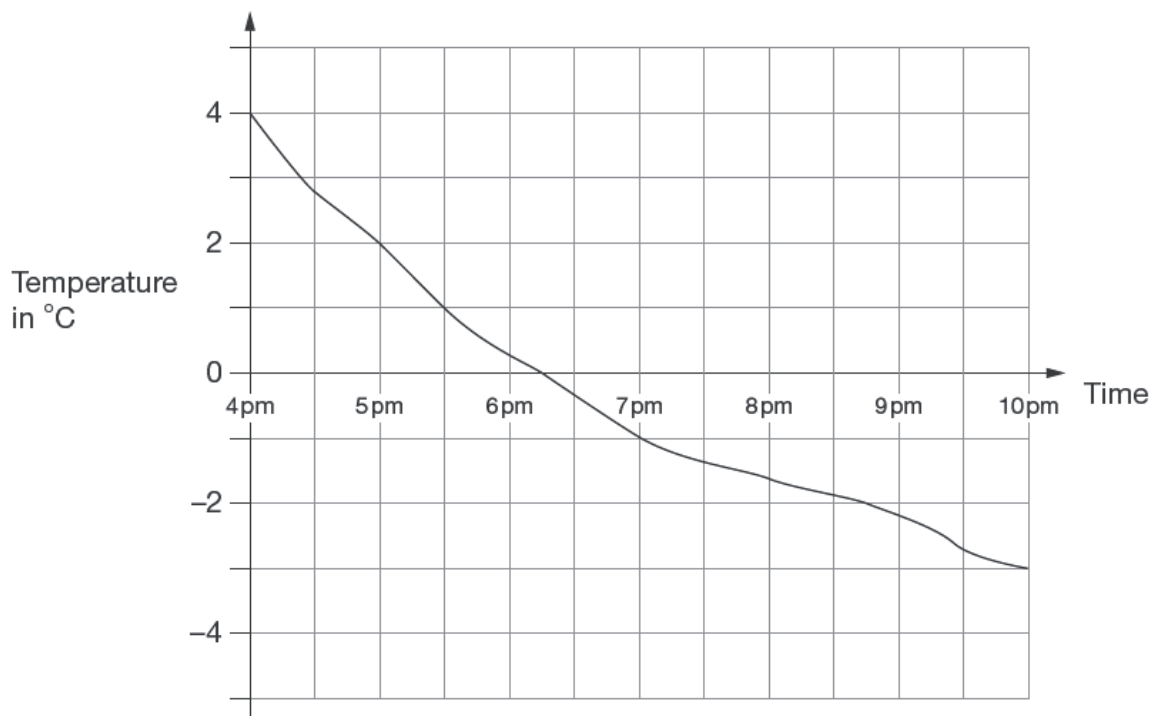


Ans: (.....,.....)

30. The sum of the ages of 4 children, Anu, Benu, Chris and Dave is 20. Dave is 5 years older than Chris, and 3 years older than Benu. Anu is 3 years younger than Chris. How old is Anu

Ans: .....

31. The graph shows the temperature on a day in winter last year.



- (a) At approximately what time was the temperature 0°C?

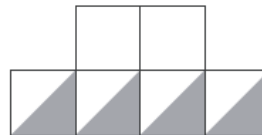
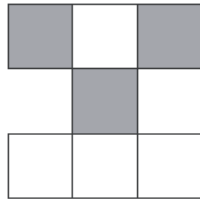
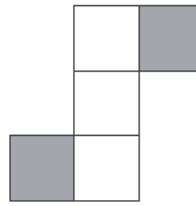
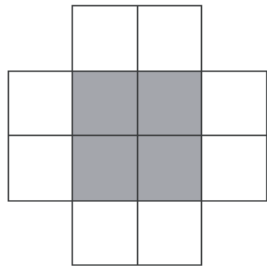
Ans: .....pm

- (b) How many degrees colder was it at 5:30pm compared to 4pm?

Ans: .....

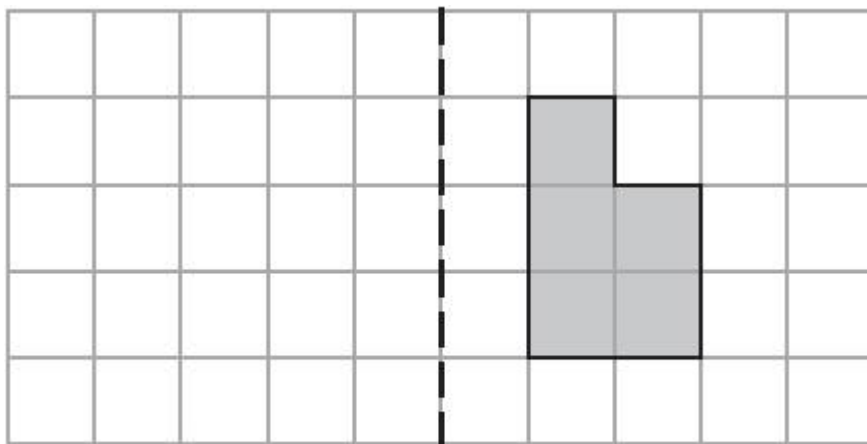


32. Circle the two diagrams where exactly  $\frac{1}{3}$  of it is shaded.



33. Draw the reflection of the shaded shape in the mirror line.

Use a ruler.



mirror  
line

34. Look at the following timetable which shows the journeys and times of 6 buses.

	<b>1st</b>	<b>2nd</b>	<b>3rd</b>	<b>4th</b>	<b>5th</b>	<b>6th</b>
<b>Station</b>	07:30	07:45	08:00	08:15	08:30	08:45
<b>Queens Road</b>	07:48	08:03	08:18	08:33	08:48	09:03
<b>Library</b>	–	08:15	08:30	08:45	–	09:15
<b>Sandy Park</b>	08:12	08:27	08:42	B	09:12	09:27
<b>Wem Brook</b>	08:25	–	08:55	09:10	09:25	–
<b>Sports Centre</b>	08:29	08:44	08:59	09:14	09:29	09:44
<b>Litterwith Road</b>	08:48	A	09:18	09:33	09:48	10:03

What times should be at A and B?

A: .....

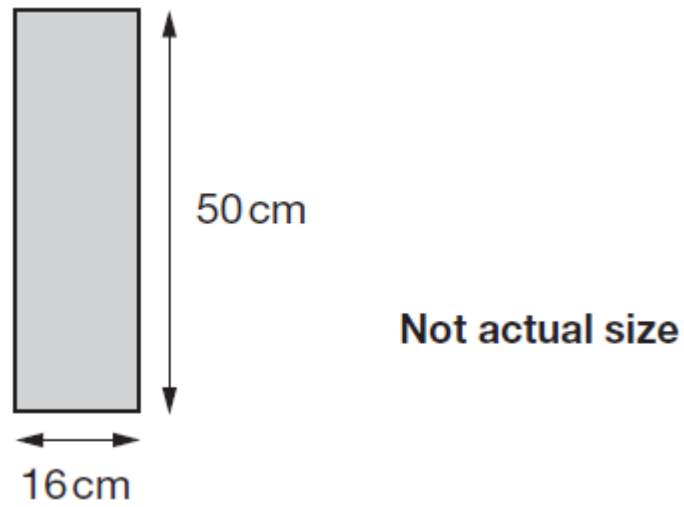
B: .....

35. A number when divided by 12 gives 11 remainder 5. What is the number?

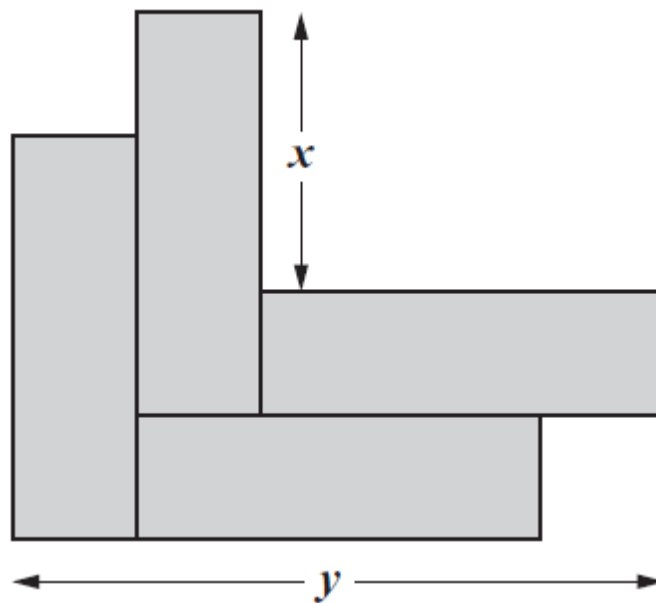
Ans: .....

36. George has some rectangles.

They each measure 50cm by 16cm.



He makes this design with four of the rectangles.



Work out the lengths of  $x$  and  $y$ .

Ans:  $x = \dots\dots\dots$ cm

Ans:  $y = \dots\dots\dots$ cm

**37.** A cricketer plays in 5 matches. He scores 37, 53,  $x$ , 29 and 41. His mean score is 40. What is  $x$  ?

Ans: .....

**38.** The ages of Grandma, Uncle John and Tom add up to 105 years. Grandma is twice as old as Uncle John, and Uncle John is twice as old as Tom. Find the ages of Grandma and Tom.

Grandma: .....

Tom: .....

**39.** 4! means  $4 \times 3 \times 2 \times 1$  so  $4! = 24$

What is the value of  $\frac{100!}{98!}$  ?

Ans: .....

40.  $E = \frac{1}{8}$

$$T + E + A + M = \frac{1}{3}$$

$$I + C + E = \frac{1}{4}$$

$$M + A + T + H + S = \frac{1}{2}$$

What is the value of:

$$M + A + T + H + E + M + A + T + I + C + S?$$

Ans: .....

**END OF TEST – please go back and check your answers**

# Maths Marking Scheme

Every question is worth 2 marks.

Questions with (a) and (b) are worth 1 mark each.

Question	Answer	Question	Answer
1	2018	21	185
2	1704	22	42 (1 mark) 20% of 210
3	3140	23	(a) 03:00 (b) 13:00
4	517	24	6.34 and 6.42 (1 mark each)
5	1232	25	1000ml or 1 litre
6	63	26	(a) 34 (b) 70
7	419	27	£8.60
8	3096	28	£2.08
9	9/17	29	4cm <sup>2</sup> , 4cm <sup>2</sup> (1 mark each)
10	10	30	-3, -2
11	309,201,010	31	1 (1 mark for any of these A=1, B=6, C=4, D=9)
12	0.412	32	6:15 (-/+ 5 mins)
13	64/125	33	(-/+ ) 3 degrees C
14	53 and 59	34	Top left and bottom right (1 mark each)
15	8.05	35	Draw reflection
16	9:13pm	36	(a) 09:03 and (b) 08:57 (1 mark each)
17	(a) 69 (b) 4	37	137
18	£7.70	38	x = 34cm y = 82cm
19	(a) 50p, 20p, 20p, 5p, 2p, 2p (b) 2/6 or 1/3	39	40
20	52	40	Grandma: 60 Tom: 15