

# The Halifax Grammar Schools Admissions Test (Practice): Mathematics

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Read the following carefully.

- 1 The Mathematics Test consists of 40 questions. The time allowed for this test is 30 minutes.
- 2 This is a multiple-choice test, in which you have to mark your answers to each question on the answer sheet.
- 3 Each of the questions in the test is followed by a choice of four possible answers: A B C D. Only **one** answer is right; the others are wrong.
- 4 For each question, choose the correct answer and make a clear pencil line in the box next to that answer on the answer sheet. An example of this is shown on the answer sheet.
- 5 If you wish to change an answer, be sure to rub out the mark completely before making another mark.
- 6 Be sure to keep your place on the answer sheet. Mark your answers in the column that has the same number as the test question.
- 7 You may not be able to finish all the questions, but try to do as many as you can. If you cannot do a question, do not waste time on it but go on to the next. If you are not sure of an answer, choose the one you think is best.
- 8 You will not be allowed to use a calculator, but you will need to use rough paper for working out your answers.
- 9 Please do not put any unnecessary marks on the answer sheet. You may write on the Question Booklet.
- 10 Complete the test using an HB pencil, a ruler and a rubber.
- 11 Remember you will have 30 minutes to do the test.

**If you are unsure about how to mark your answers, say so now.**

## Entrance Test Example Questions

- 
- 1  $14562 - 1251 =$
- A. 15813      B. 13311      C. 13113      D. 12131

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- 2  $591 + 372 + 85 =$
- A. 1046      B. 948      C. 1048      D. 848

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- 3 Convert  $\frac{3}{20}$  into a percentage
- A. 3%      B. 23%      C. 15%      D. 30%

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- 4 Service 521 is a bus from Halifax to Illingworth and back to Halifax. Here is part of its timetable

	<b>521</b>	<b>521</b>	<b>521</b>	<b>521</b>	<b>521</b>	<b>521</b>	<b>521</b>	<b>521</b>	<b>521</b>	<b>521</b>
<b>Halifax King Edward Street</b>	<b>1615</b>	<b>1623</b>	<b>1631</b>	<b>1639</b>	<b>1647</b>	<b>1656</b>	<b>1705</b>	<b>1713</b>	<b>1721</b>	<b>1729</b>
<b>Cousin Lane (Club Lane)</b>	<b>1626</b>	<b>1634</b>	<b>1642</b>	<b>1650</b>	<b>1658</b>	<b>1707</b>	<b>1716</b>	<b>1724</b>	<b>1732</b>	<b>1740</b>
<b>Illingworth Tewit Lane Top</b>	<b>1641</b>	<b>1649</b>	<b>1657</b>	<b>1705</b>	<b>1713</b>	<b>1722</b>	<b>1731</b>	<b>1738</b>	<b>1746</b>	<b>1754</b>
<b>Ovenden Way Top</b>	<b>1648</b>	<b>1656</b>	<b>1704</b>	<b>1712</b>	<b>1720</b>	<b>1729</b>	<b>1738</b>	<b>1745</b>	<b>1753</b>	<b>1801</b>
<b>Halifax King Edward Street</b>	<b>1700</b>	<b>1708</b>	<b>1716</b>	<b>1724</b>	<b>1732</b>	<b>1741</b>	<b>1750</b>	<b>1756</b>	<b>1804</b>	<b>1812</b>

John lives near Tewit Lane Top. He wants to be in Halifax by 1730.  
What time should he catch the bus from Tewit Lane Top?

- A. 1639      B. 1713      C. 1729      D. 1705
- 
- 5 The mean of four numbers is 6. Three of the numbers are 4, 5 and 8.  
What is the fourth number?

- A. 11      B. 7      C. 24      D.  $5\frac{3}{4}$

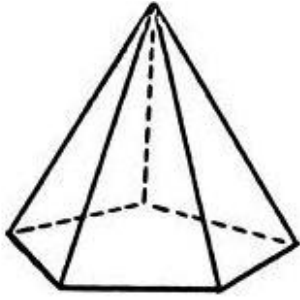
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- 6 Which decimal number is nearest to 35.3?
- A. 35.29      B. 35.4      C. 35.303      D. 35.298

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- 7 Write down the first prime number that comes after 62.
- A. 63      B. 65      C. 69      D. 67
- 
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14

How many vertices has this pyramid



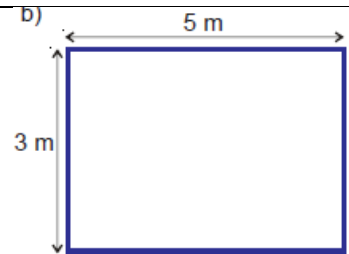
- A. 10                      B. 6                      C. 5                      D. 4

15

Carol and Louise share out £20 between in the ratio 3:2.  
How much does Louise get?

- A. £15                      B. £12                      C. £8                      D. £5

16 Calculate the area and perimeter of this shape:



- A.  $8\text{m}^2$  and 16cm                      B.  $16\text{m}^2$  and 15cm                      C.  $15\text{m}^2$  and 16m                      D.  $34\text{m}^2$  and 8m

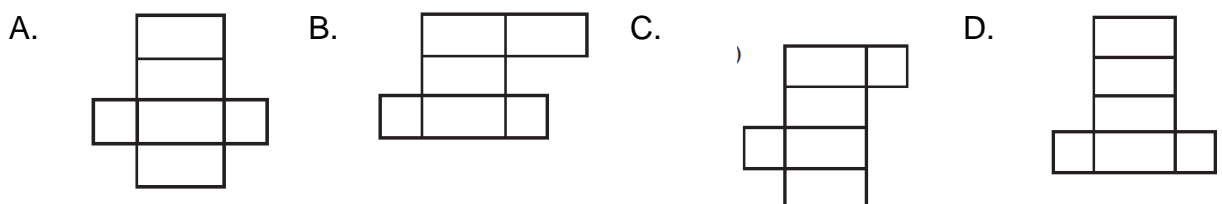
17 Here is a sequence with two missing numbers.

5, \_\_, 19, 26, \_\_, 40, ...

Work out the missing numbers

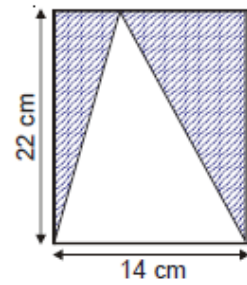
- A. 7 and 33                      B. 10 and 36                      C. 14 and 30                      D. 12 and 33

18 Which of these is **not** the net of a cuboid?



19

Calculate the shaded area of this diagram



- A. 308 cm<sup>2</sup>      B. 77 cm<sup>2</sup>      C. 154 cm<sup>2</sup>      D. 36 cm<sup>2</sup>

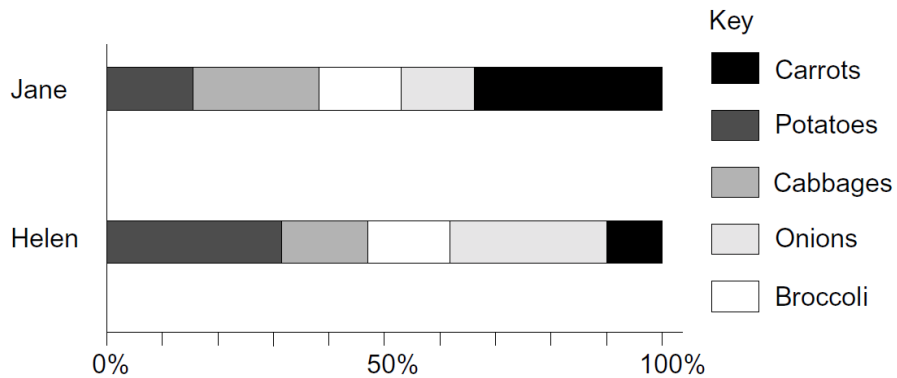
20 At a party for 171 people, 9 guests sat at each table. How many tables were there?

- A. 162      B. 19      C. 18      D. 180

21 If 5 rulers cost £1.40, how much would 7 rulers cost?

- A. 56p      B. £1.96      C. 28p      D. 20p

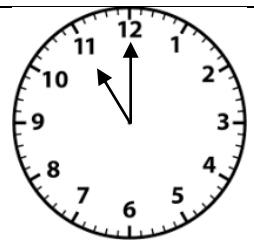
22 Jane and Helen both have an allotment where they grow vegetables. Both allotments are the same size. The diagram below shows how they are divided up.



What extra percentage of land does Jane give to carrots than Helen

- A. 25%      B. 10%      C. 65%      D. 90%

23 What is the angle between the hands when the clock reads 11 o'clock?



- A. 60°      B. 90°      C. 30°      D. 150°





36

Find  $\frac{3}{4}$  of  $\frac{1}{2}$  of 80

- A. 60                      B. 30                      C. 50                      D. 40

37

Here is a menu for the NHGS restaurant.

Each diner chooses 1 starter, 1 main course and 1 dessert.

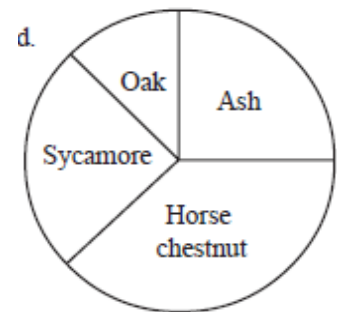
How many possible meal combinations are there?

<b>NHGS Restaurant</b>	
Set menu of the day	
<b>Starters</b>	
Tomato soup or Melon	
<b>Main Course</b>	
Salmon, new potatoes and peas or Vegetable lasagne with salad	
<b>Deserts</b>	
Fresh fruit cocktail or Lemon cheesecake	

- A. 6                      B. 8                      C. 10                      D. 110

38

The pie chart shows the mixture of trees in a wood.  
There are 1,000 trees altogether.  
What percentage of the trees are ash?



- A. 250%                      B. 90%                      C. 25%                      D. 75%

39

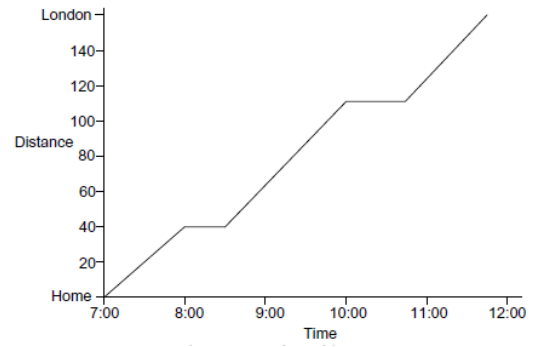
13 friends win a prize of £385.  
They share the prize out equally in whole £1s (no pence).  
They give the remainder to charity.  
How much do they give to charity?

- A. £8                      B. £29                      C. £30                      D. £5



Stefan travels from his home to London by coach, a distance of 160 miles.

How far from home is Stefan when the bus makes the 2<sup>nd</sup> stop?



- A. 40 miles      B. 8 miles      C. 10 miles      D. 110 miles

End of Questions

## Answers

Question	Letter	Answer
1	B	13311
2	C	1048
3	C	15%
4	D	1705
5	B	7
6	D	35.298
7	D	67
8	B	l and n
9	C	2
10	C	12p
11	B	V
12	C	6.5
13	D	£36
14	B	6
15	C	£8
16	C	15m <sup>2</sup> and 16m
17	D	12 and 33
18	B	See diagram on question
19	C	154 cm <sup>2</sup>
20	B	19
21	B	£1.96
22	A	25%
23	C	30°
24	A	16
25	C	137 cm <sup>2</sup>
26	A	£12.00
27	C	10.00am
28	B	11
29	A	125
30	B	21
31	C	Always odd
32	D	5p
33	A	30mph
34	D	42 cm
35	C	9
36	B	30
37	B	8
38	C	25%
39	A	£8
40	D	110