For Markers Use Only	Mark

First Name: ..... Surname: .....

Current School: .....

MAGDALEN COLLEGE SCHOOL

OXFORD

11+/Pre Test ENTRANCE EXAMINATION

Specimen

MATHEMATICS

Please read this information before the examination starts.

- This examination is 55 minutes long.
- Please try **all** the questions.
- Calculators are **not** allowed.
- This test is designed to be challenging, so you may not find all the questions straightforward and you may not finish the whole paper.
- Read each question very carefully, think for a while and if you still do not understand what you need to do, move on to the next question.
- All workings and calculations should be written in the spaces provided. Marks are awarded for correct workings, even if you don't get as far as an answer.
- Keep working steadily and carefully. Then if you have time at the end, go back and try to tackle any questions you did not find so easy when you first saw them.
- There are 18 questions on this test, including Q18 on the back page
- Good Luck!

www.maths-a2z.co.uk

1. Work out:

a) $153 + 78$

Answer a)_____[1]

b) $185 - 43$

Answer b)_____[1]

c) $532 - 85$

Answer c)_____[1]

d) 53×9

Answer d)_____[1]

e) 37×23

Answer e)_____[2]

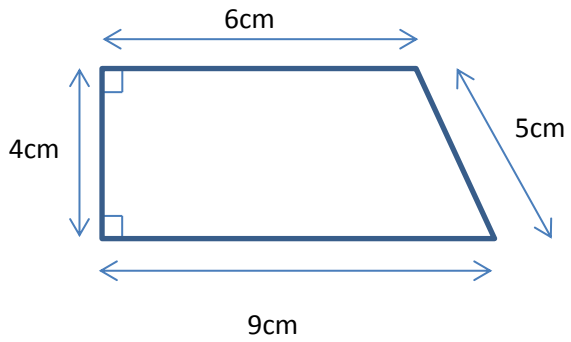
f) $238 \div 7$

Answer f)_____[1]

g) $442 \div 17$

Answer g)_____[2]

2. Find the perimeter and area of this shape:



Perimeter = _____cm

Area = _____cm^2

[5]

3. Calculate, giving your answer as simply as possible

a) $\frac{5}{12} + \frac{4}{12}$

Answer a) _____[2]

b) $\frac{1}{6} + \frac{1}{3}$

Answer b) _____ [3]

4. Find:

a) 30% of £70

Answer a) £_____[1]

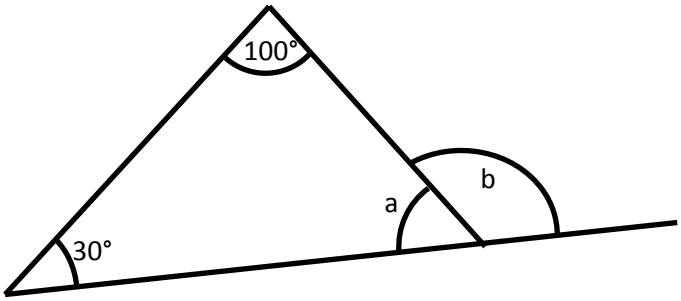
b) a fifth of £70

Answer b) £_____[1]

c) 80% of a half of £70

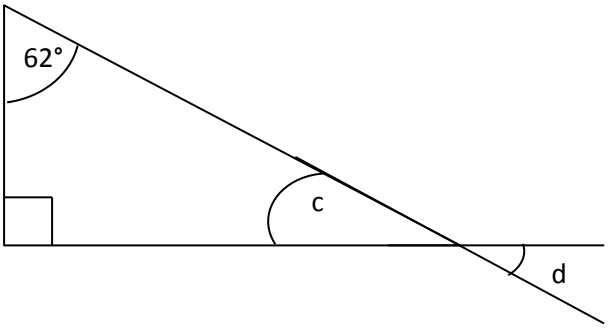
Answer c) £_____[2]

5. Find the missing angles (diagrams not to scale):



Answer: a = _____^{o} [1]

Answer: b = _____^{o} [1]



Answer: c = _____^{o} [1]

Answer: d = _____^{o} [1]

6. Find the next 2 numbers in the following sequences:

a) 3, 7, 11, 15, 19, ___ , ___

b) 3, 6, 12, 24, ___, ___

c) 3, 5, 9, 15, 23, ___ , ___

d) $\frac{1}{5}, \frac{3}{10}, \frac{5}{17}, \frac{7}{26}$, ___ , ___

[8]

7. Complete the table below, giving fractions in their lowest terms.

Fraction	Decimal	Percentage
		50%
	0.75	
$\frac{3}{5}$		
$\frac{17}{20}$		

[6]

8. The table shows part of the railway timetable from Edinburgh to St Andrews. Some trains stop at every station and others are express trains. All stopping trains take the same time between each station as each other.

	Express	Stopping	Express	Stopping	Express	Stopping
Edinburgh	13:18	13:43	14:24	14:41	15:20	15:34
Haymarket		14:06		15:04		
Kircaldy		14:18		15:16		
Ladybank		14:23		15:21		
St Andrews	14:02	14:38	15:08	15:36	16:04	

a) How many minutes does it take to travel between Edinburgh and Kircaldy?

Answer a) _____[1]

b) Complete the times in the boxes in the table above for the stopping train that leaves Edinburgh at 15:34

[3]

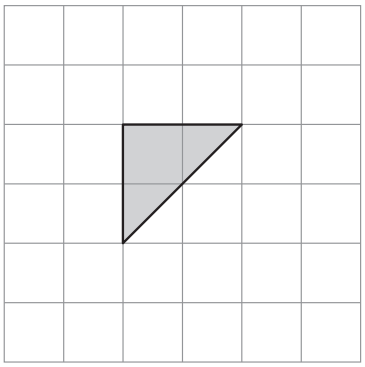
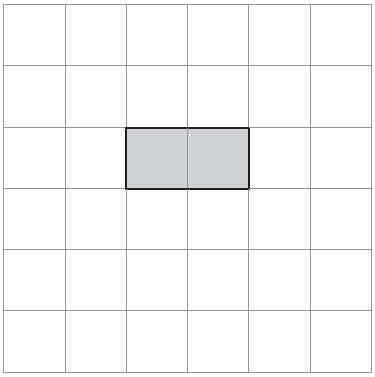
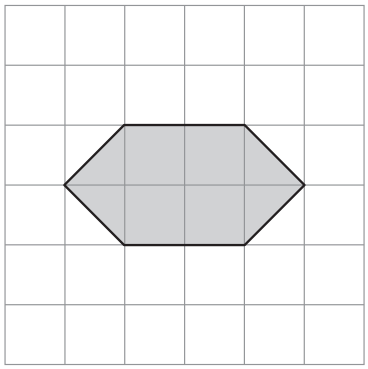
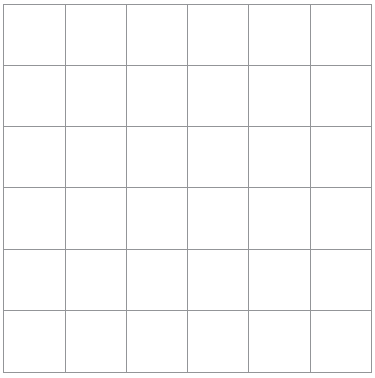
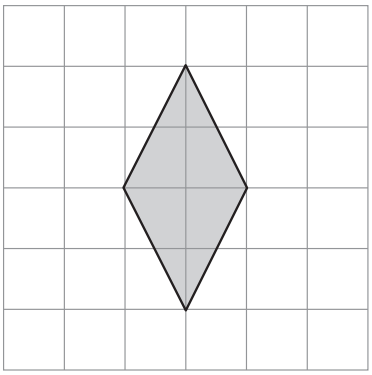
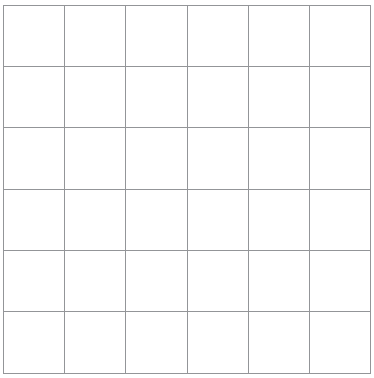
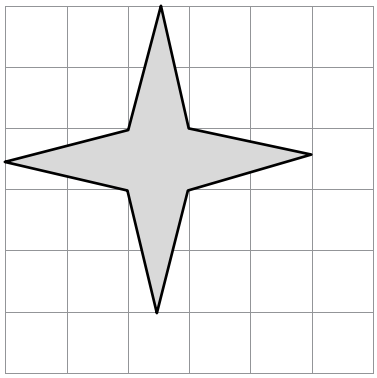
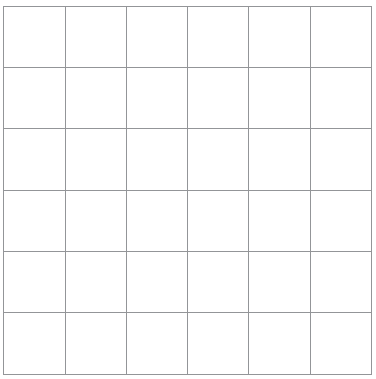
c) How much longer does the stopping train take than the express train for the journey from Edinburgh to St Andrews?

Answer c) _____[2]

d) James arrives at Edinburgh airport at 13:05. It takes him 27 minutes to get from the plane and collect his baggage. It then takes him 45 minutes to get to Edinburgh railway station. How long does he have to wait for the next train to St Andrews?

Answer d) _____[3]

9. For each shape draw a rectangle that has the same area as the shape on the left. The first one is done for you.

	Shape	Rectangle
eg.		
		
		
[6]		

10. James was given £15 to buy supplies for the university year. He chose to spend it on pens and pencils



each pen costs £1.25



and each pencil costs 80p

a) If James buys 5 pens and 7 pencils, how much money will he have left?

Answer_____[3]

b) If instead James buys a set of 5 pencils, what is the maximum number of pens he can buy?

Answer_____[3]

c) If instead James ends up with £2.80 left of his money how many pens and how many pencils did he buy?

Pens_____ Pencils_____ [4]

11.

12 boy scouts will eat 30 loaves in 4 days

a) How many boy scouts will eat 60 loaves in 4 days?

Answer_____[2]

b) How many days will it take 6 boy scouts to eat 30 loaves?

Answer_____[2]

c) How many loaves will 3 boy scouts eat in 8 days?

Answer_____[2]

12. Put these numbers in order from smallest to largest:

60% 17/25 2/3 0.66

Answer: _____<_____<_____<_____ [3]
smallest largest

13. There are four unknown positive whole numbers.
    The mean of the two smallest numbers is 3.
    The mean of the three smallest numbers is 5.
    The mean of all four numbers is 7.
    All the numbers are different and odd.
    What are the four numbers?

Answer_____[5]

14.

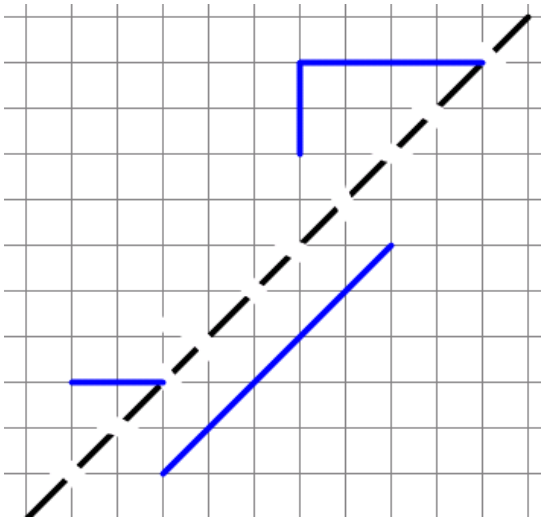
Ten green bottles hanging on a wall
Ten green bottles hanging on a wall
If one green bottle should accidentally fall,
There'd be nine green bottles hanging on the wall
Nine green bottles…



If the first bottle fell at ten past five in the morning (5.10am) and the others fell down at five minute intervals, at what time would the last bottle fall?

Answer_____[2

15. The dotted line is a line of symmetry of a shape, which is partly drawn. On the grid complete the shape.



[2]

16. Here are five cards with numbers printed on them.

7	6	2	4	8

The cards can be placed in order to form a 5-digit number.
For example the smallest number that could be made with all 5 cards is:

2	4	6	7	8

a) Using all 5 cards what is the largest possible odd number

Answer_____[2]

b) Using all 5 cards what is the number that is closest to 50,000?

Answer_____[2]

c) Using only two of the cards, what is the largest possible **prime** number?

Answer_____[2]

d) Arrange any three of the number cards to give the largest possible answer to this multiplication

		×	

[3]

17. For each of the following questions you need to find a whole number between 0 and 100 that has the following properties.

a) When the number is divided by 4 the remainder is 0.
When the number is divided by 7 the remainder is 6.
When the number is divided by 5 the remainder is 0.
What is the number?

Answer_____[2]

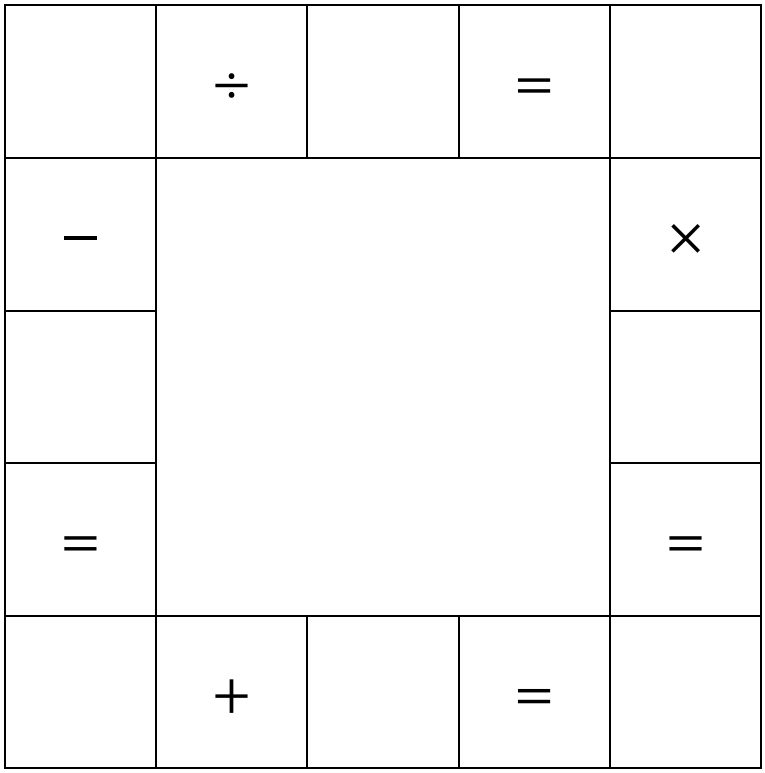
b) When the number is divided by 5 the remainder is 4.
When the number is divided by 6 the remainder is 0.
When the number is divided by 7 the remainder is 0.
What is the number?

Answer_____[3]

c) When the number is divided by 2 the remainder is 1.
When the number is divided by 3 the remainder is 1.
When the number is divided by 5 the remainder is 0.
When the number is divided by 7 the remainder is 1.
What is the number?

Answer_____[4]

18. Place each whole number from 1 to 8 inclusive in one of the blank boxes below to make the calculations correct. The calculations read left to right and top to bottom.



[8]

END OF TEST – GO BACK AND CHECK YOUR ANSWERS