

**Beal Academy Trust**  
**Year 10**  
**Summer Setting Examinations**  
**Paper 1**  
**Set 5**

Non-Calculator

Time: 50 Minutes

Name: **ms**

Class/Teacher:


Total Mark: %

My Mark: **54**

Q	Topic	Total Mark	My Mark	RAQ
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				

**Questions**

**Q1.**



What fraction of the shape is shaded?  
Give your answer in its simplest form.

**ms** correct answer without method is full marks

$$\frac{12}{18} = \frac{2}{3}$$

(Total for question = 2 marks)

**Q2.**

(a) Write these numbers in order of size.  
Start with the smallest number.  
52 102 25 120 55

**ms** 25, 52, 55, 102, 120

(1)

(b) Write these numbers in order of size.  
Start with the smallest number.  
6 -2 0 -5 3

**ms** -5, -2, 0, 3, 6

(1)

(c) Write these numbers in order of size.  
Start with the smallest number.  
0.63 0.633 0.603 0.6 0.06

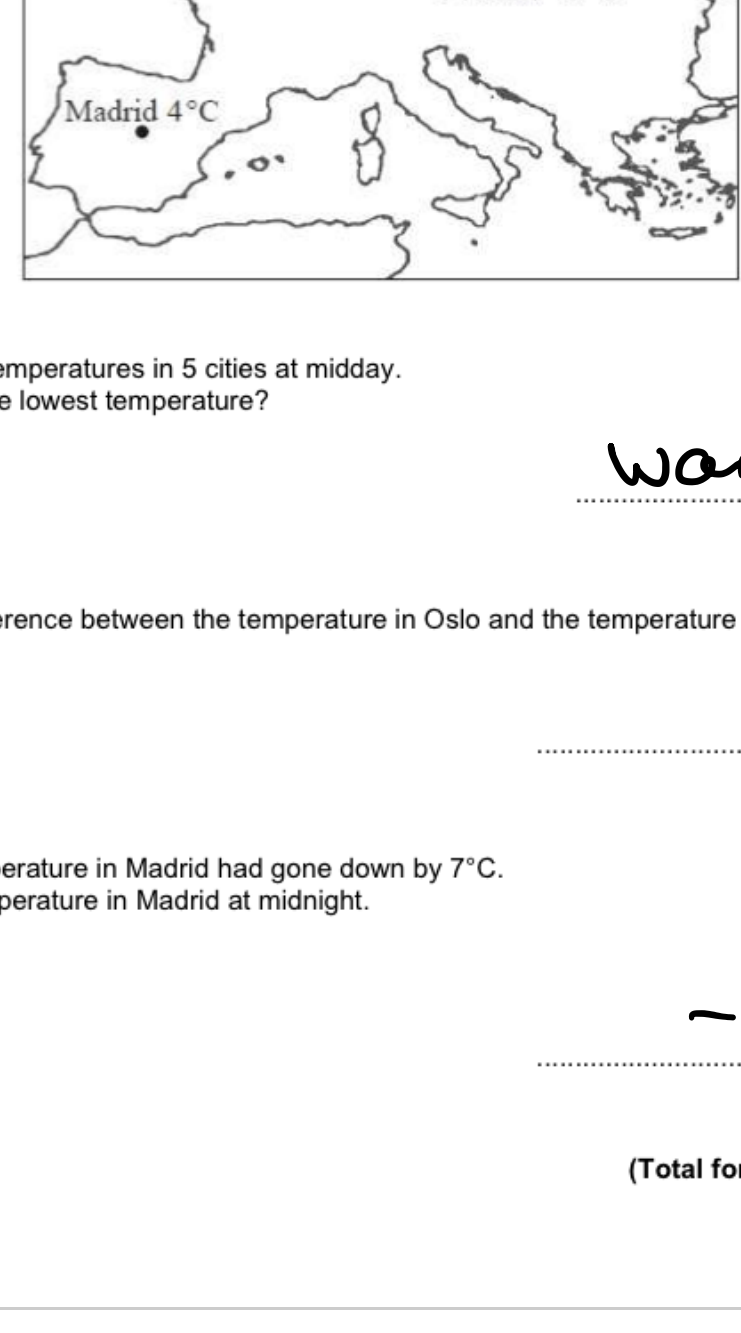
**ms** 0.06, 0.6, 0.603, 0.63, 0.633

(1)

(Total for Question is 3 marks)

**Q3.**

Here is a map.



The map shows the temperatures in 5 cities at midday.

(a) Which city has the lowest temperature?

**ms** Warsaw

(1)

(b) Work out the difference between the temperature in Oslo and the temperature in London.

**ms** 6

(1)

By midnight, the temperature in Madrid had gone down by 7°C.

(c) Work out the temperature in Madrid at midnight.

**ms** -3

(1)

(Total for Question is 3 marks)

**Q4.**

Here is a list of eight numbers  
4 5 4 25 29 30 33 39 40

From the list, write down

(i) a factor of 20

(ii) a multiple of 10

(iii) the prime number that is greater than 15

**ms** 4 or 5  
30 or 40  
29

(Total for Question is 3 marks)

**Q5.**

Here are the first four terms of a number sequence.  
3 7 11 15

(a) Write down the next term of this sequence.

**ms** 19

(1)

The 50th term of this number sequence is 199

(b) Write down the 51st term of this sequence.

**ms** 203

(1)

The number 372 is not a term of this sequence.

(c) Explain why.

**ms** it is even and sequence only has odd numbers

(1)

(Total for Question is 3 marks)

**Q6.**

(a) Write down the value of  $7^2$

**ms** 49

(1)

(b) Write down the value of  $\sqrt{25}$

**ms** 5

(1)

(c) Write down the value of  $2^3$

**ms** 8

(1)

(Total for Question is 3 marks)

**Q7.**

Grace and Jack share £140 in the ratio 3 : 4

Work out the amount of money that Jack gets.

**ms**  $3+4 = 7$  parts  
 $140 \div 7 = 20$   
 $20 \times 4 = 80$

£ 80

(Total for Question is 2 marks)

**Q8.**

Work out  $\frac{1}{3} + \frac{5}{9}$

**ms**  $\frac{3}{9} + \frac{5}{9} = \frac{8}{9}$

(Total for question = 2 marks)

**Q9.**

Here is a list of ingredients for making 16 flapjacks.

Ingredients for 16 flapjacks	
120 g	butter
140 g	brown sugar
250 g	oats
2	tablespoons syrup

Jenny wants to make 24 flapjacks.

Work out how much of each of the ingredients she needs.

**ms** 8 flapjacks: 60g butter, 70g sugar, 125g oats, 1 tsp syrup  
24 flapjacks: 120g butter, 140g sugar, 375g oats, 3 tsp

**ms**  $\frac{120}{2} = 60$ ,  $\frac{140}{2} = 70$ ,  $\frac{250}{2} = 125$ ,  $\frac{2}{2} = 1$

(Total for question = 3 marks)

**Q10.**

There are 120 people at a party.

$\frac{1}{3}$  of the people leave the party.

Work out the number of people still at the party.

**ms**  $\frac{1}{3}$  of 120 = 40  
 $120 - 40 = 80$

**ms** alternative:  $\frac{2}{3}$  of 120 = 80

(Total for question = 3 marks)

**Q11.**

(a) Simplify  $d + d + d + d$

**ms** 4d

(1)

(b) Simplify  $3f + 4 - 2f + 6$

**ms** f + 10

(2)

(Total for Question is 3 marks)

**Q12.**

(a) Solve  $k + 4 = 10$

**ms** k = 6

(1)

(b) Solve  $m + m + m = 21$

**ms** m = 7

(1)

(c) Solve  $5p - 4 = 9$

**ms**  $5p - 4 = 9$   
 $5p = 13$   
 $p = \frac{13}{5}$

$p = \dots$

(2)

(Total for Question is 4 marks)

**Q13.**

$x = 3$

(a) Work out the value of  $4x^2$

**ms**  $4(3)^2 = 36$

(1)

(b) Solve  $5x + 4 = 14 + x$

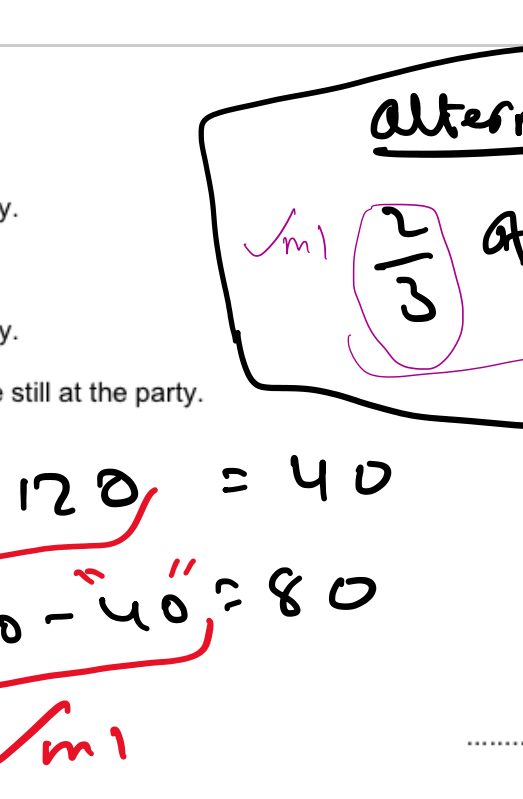
**ms**  $5x + 4 = 14 + x$   
 $-x$   
 $4x + 4 = 14$   
 $4x = 10$   
 $x = \frac{10}{4} = \frac{5}{2}$

$x = \dots$

(2)

(Total for question = 3 marks)

**Q14.**



Work out the area of the shape.

**ms**  $10 \times 2 = 20$   
 $6 \times 2 = 12$   
Total area = 32

(Total for question is 2 marks)

**Q15.**

Here are the first five terms of an arithmetic sequence.

3 5 7 9 11

Write down, in terms of  $n$ , an expression for the  $n$ th term of the sequence.

**ms**  $2n + 1$

(Total for Question is 2 marks)

**Q16.**

Work out  $3\frac{1}{3} \times 4\frac{2}{5}$

Give your answer as a mixed number in its simplest form.

**ms**  $\frac{10}{3} \times \frac{22}{5} = \frac{2}{3} \times \frac{22}{1} = \frac{44}{3} = 14\frac{2}{3}$

(Total for question = 3 marks)

**Q17.**

(a) Work out  $84 \div 3$

**ms** 28

(1)

(b) Work out  $0.17 \times 6000$

**ms** 1020

(1)

(c) Work out  $(-2)^3$

**ms** -8

(1)

(Total for question = 3 marks)

**Q18.**

Neil buys 30 pens, 30 pencils, 30 rulers and 30 pencil cases.

Price list	
pens	6 for 82p
pencils	15 for 45p
rulers	10 for £1.25
pencil cases	37p each

What is the total amount of money Neil spends?

**ms**  $82p \times 5 = \pounds 4.10$   
 $45p \times 2 = \pounds 0.90$   
 $\pounds 1.25 \times 3 = \pounds 3.75$   
 $37 \times 30 = \pounds 11.10$   
Total =  $\pounds 19.85$

(Total for question = 4 marks)

**Q19.**

Tom and Amy set the alarms on their phones to sound at 6.45 am.

Both alarms sound together at 6.45 am.

Tom's alarm then sounds every 9 minutes.

Amy's alarm then sounds every 12 minutes.

At what time will both alarms next sound together?

**ms** Tom - 9, 18, 27, 36  
Amy - 12, 24, 36  
LCM = 36

**ms** 9:21

(Total for question = 3 marks)