Alleyn's

11+ MATHS

SAMPLE EXAMINATION PAPER 2

Calculators MAY NOT be used. Show your working, as there may be marks given for working out.

One hour.

Co-educational

excellence

MULTIPLE CHOICE

Circle the correct answer to the questions in this section

1. How many seconds are there in four minutes?

(a) 4 (b) 60 (c) 460 (d) 240 (e) 3600

2. Which of these fractions is equal to 0.3?

(a) $\frac{3}{10}$ (b) $\frac{1}{3}$ (c) $\frac{10}{3}$ (d) $\frac{3}{1}$ (e) $\frac{3}{6}$

3. Which of these is the smallest?

(a) 0.0701 (b) 0.701 (c) 0.071 (d) 0.07 (e) 0.0777

4. The most likely height of a single-decker bus is:

(a) 0.25cm (b) 2.5cm (c) 25cm (d) 250cm (e) 2500cm

5. 16 x 2 - 2 x 4 =

(a) 0 (b) 4 (c) 12 (d) 24 (e) 120

6. Two of the angles in a triangle are 25^0 and 107^0. The third angle is:

(a) 28^o (b) 48^o (c) 68^o (d) 88^o (e) 180^o

7. What is the perimeter of a square whose area is $36cm^2$?

(a) 24cm (b) 25cm (c) 30cm (d) 36cm (e) 36^2cm

8. How long is it, in hours and minutes, between 10:28 and 16:06?

(a) 5 hrs 38 mins (b) 8 hrs 34 mins (c) 5 hrs 36 mins (d) 26hrs 34 mins

(e) 4 hrs 33 mins

9. What is the value of the digit 5 in the number 32.579?

(a) five hundred (b) fifty (c) five tenths (d) five hundredths

(e) five thousandths

10. I buy 6 packets of crisps from the £1.99 store where everything costs £1.99. How much change do I get from £20?

(a) 6p (b) £6.99 (c) £11.94 (d) £4.06 (e) £8.06

Show your working when answering these questions:

11. (a) 274 + 398 =

(b) 708 – 444 =

(c) 23 x 47 =

(d) 5058 ÷ 6 =

12. (a) $\frac{1}{3} + \frac{1}{3} =$

(b) $\frac{3}{4} + \frac{1}{8} =$

(c) $\frac{5}{6} - \frac{1}{2} =$

(d) $7 - \frac{3}{7} =$

13. Write down the next two numbers in these sequences:

(a) 5, 8, 11, 14, ……., …….

(b) 53, 47, 41, 35, …….., ……..

(c) 6, 9, 13, 18, …….., ……..

(d) 60, 56, 48, 36, …….., ……..

(e) 2, 6, 18, 54, ……..., ……

14. Put the following in order, starting with the smallest:

3.44, 4.34, 34.4, 43.4, 44.3, 4.43

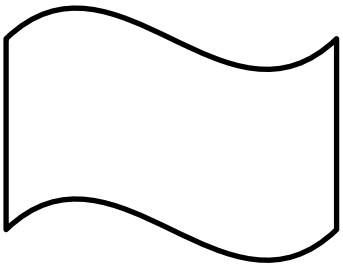
……

15. Draw any lines of symmetry on these shapes. Some may have none or more than one.

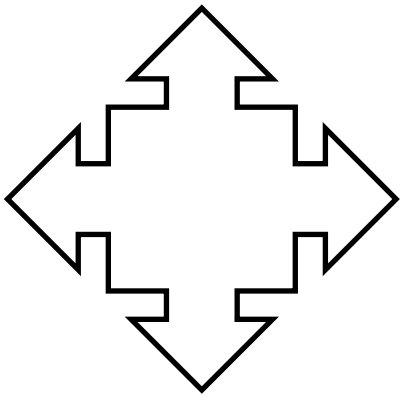
(a)



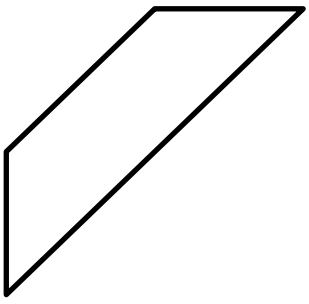
(b)



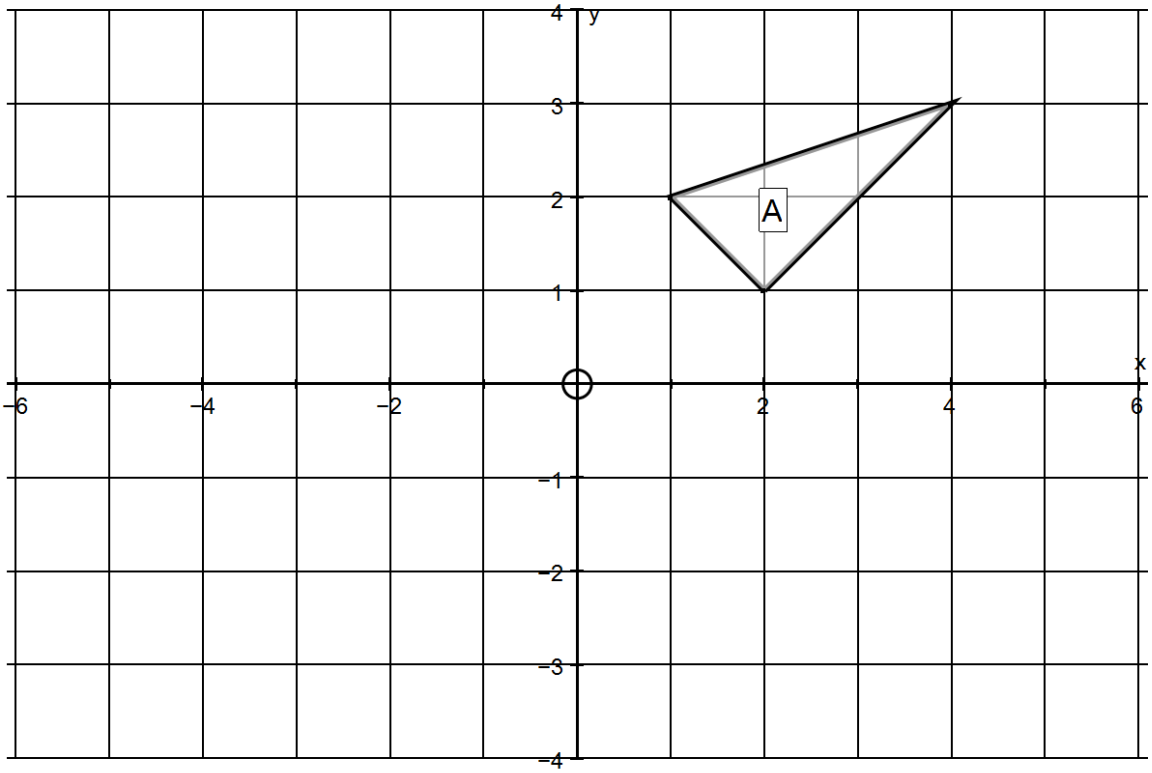
(c)



(d)



16.



(a) Reflect shape A in the y-axis and label the new shape B.

(b) Reflect shape B in the x-axis and label the new shape C.

17. Bob counts the number of birds visiting his garden every day for a week. The counts were:

17, 12, 8, 16, 2, 5, 10

(a) What was the mean score for the seven days?

(b) What was the range?

(c) A set of four numbers 5, 7, 12 and X have a mean of 10. What is X?

18. (a) According to Nigella, when making a birthday cake, the perfect ratio of flour to sugar is 140:200. What is this ratio in its simplest form?

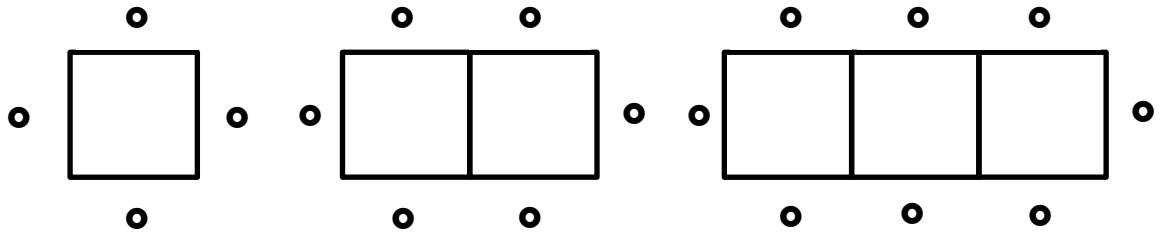
(b) I am making a scale model of my yacht, which is 9m long. If the scale is 1:30, how long will the model yacht be (in cm)?

(c) My friend Dave is making a scale model of Tower Bridge. Tower Bridge is 60m tall and his model is 120cm tall. What is the scale of the model, in its simplest form?

19. (a) An icicle measured 2.14m at the start of a sunny day, but only 87cm at the end of the day. What length of icicle had melted?

(b) When I lay a new patio in my back garden, I will need 290kg of gravel. How many 12kg bags do I need to buy?

20.



This picture shows people sitting around tables made of smaller square tables. Complete the table below:

Number of smaller tables	1	2	3	4	10	100
Maximum number of people		6		10		

Adam is trying to find a formula that links the Table number, T, to the number of People, P. Fill in the gaps to help him:

P = …….. T + ……

21. On my wall I want to put some stickers of David Cameron. The space I have available is 80cm by 45cm and the stickers are each 5cm by 10cm. What is the maximum number of stickers I can fit on the wall?

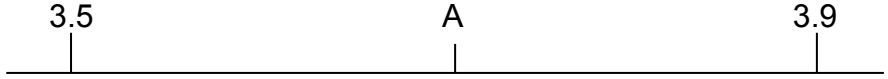
22. A train leaves London and travels at a steady speed of 120mph to Edinburgh. Before reaching Edinburgh, the train stops in Leeds after travelling for one and a half hours. The distance from London to Edinburgh is 420 miles. Use this information to answer the following:

(a) How long does the train take to travel from London to Edinburgh?

(b) How far is Leeds from London?

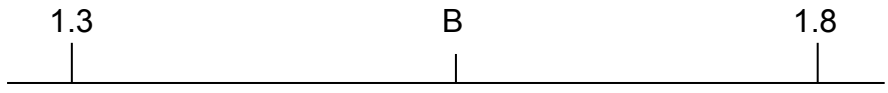
23. These pictures show parts of a scale with equal gaps between each marking. What number should replace each letter?

(a)



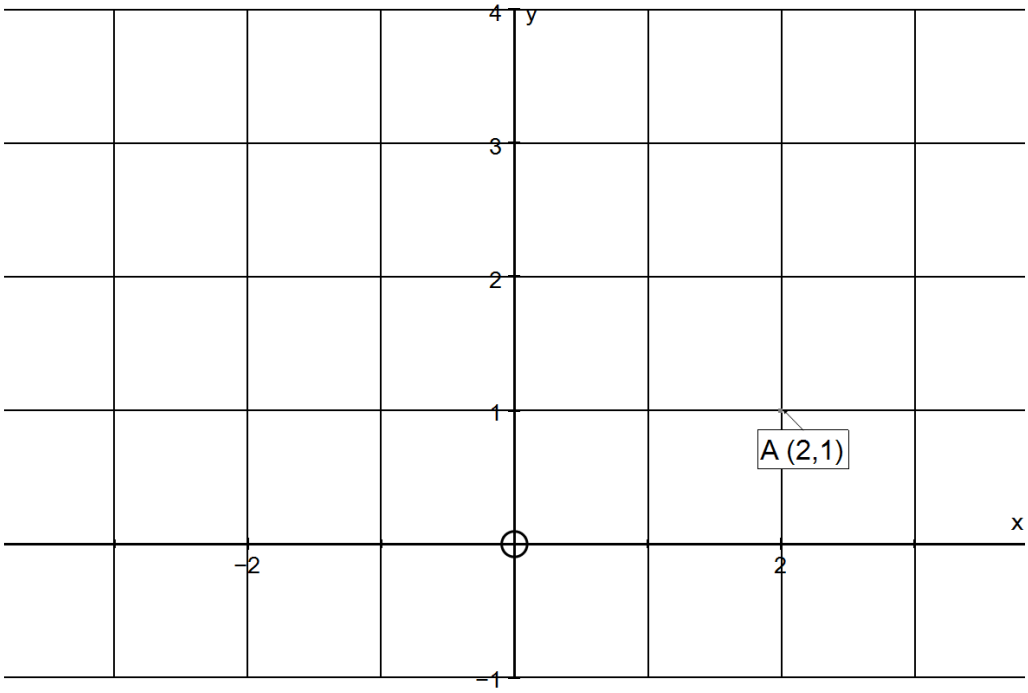
A = ……..

(b)



B = ……..

24.



The point A (2,1) has been marked.

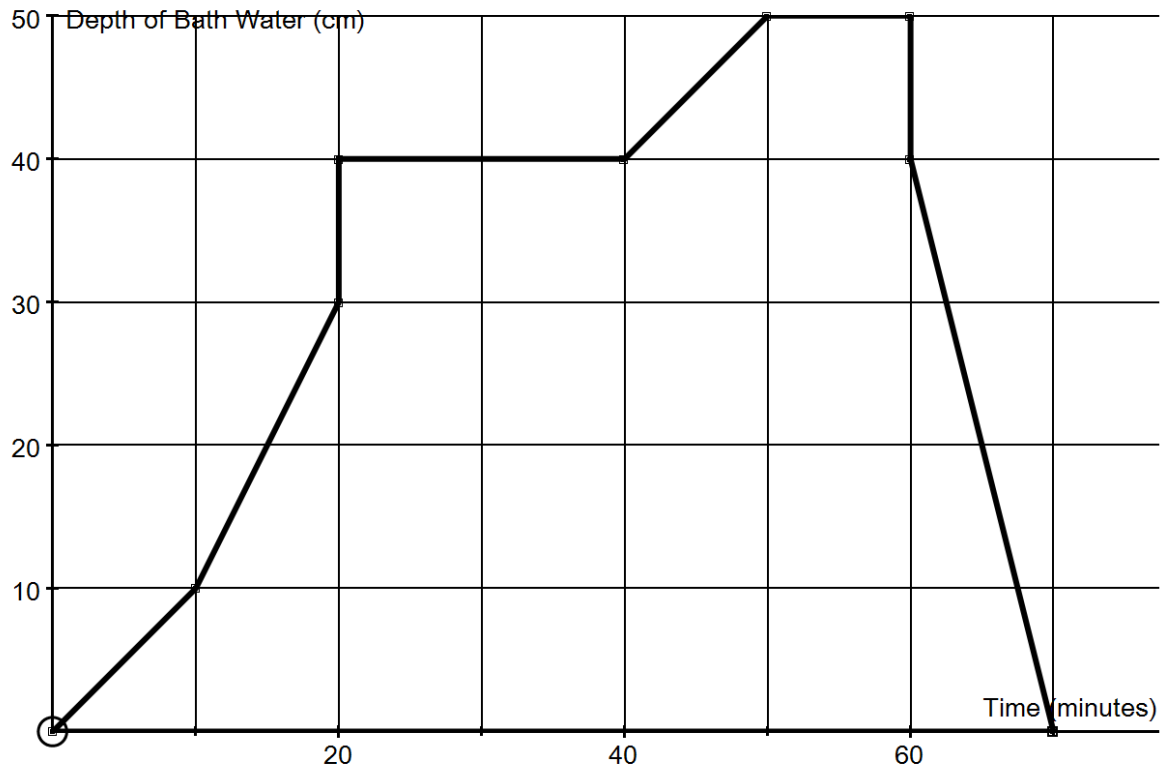
(a) Mark the point B with co-ordinates (0,2)

(b) Mark the point C with co-ordinates (-1,1)

(c) There are three possible places for a fourth point D to make a parallelogram using the four points A, B, C and D. Write down the coordinates of these three points.

(d) What is the area of the triangle formed by these three points?

25.



This graph shows the depth of water in Grandma's bath one evening. Label each section of the graph with one of the following letters. Some letters may appear more than once on your graph

A – Both the hot and cold taps are running

B – Grandma gets into the bath

C – Grandma takes the plug out

D – Grandma sits in the bath reading her book

E – Only the hot tap is running

F – Grandma gets out of the bath

26. What 5-digit number has the following features:

If we put the numeral 1 at the beginning, we get a number three times smaller than if we put the numeral 1 at the end of the number?

In other words, if you think the answer is the number 34567, then you want the number 134567 to be one third of 345671, but it isn't, so what's the number?

END OF TEST – NOW GO BACK AND CHECK YOUR WORK