

Ma

KEY STAGE

3

TIER

4–6

2008

Mathematics test

Paper 1

Calculator not allowed

First name _____

Last name _____

School _____

Remember

- The test is 1 hour long.
- You **must not** use a calculator for any question in this test.
- You will need: pen, pencil, rubber, ruler, tracing paper and mirror (optional).
- Some formulae you might need are on page 2.
- This test starts with easier questions.
- Try to answer all the questions.
- Write all your answers and working on the test paper – do not use any rough paper. Marks may be awarded for working.
- Check your work carefully.
- Ask your teacher if you are not sure what to do.

For marker's use only

TOTAL MARKS	
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Instructions

Answers



This means write down your answer or show your working and write down your answer.

Calculators



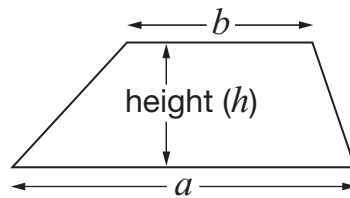
You **must not** use a calculator to answer any question in this test.

Formulae

You might need to use these formulae

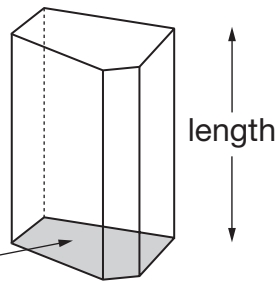
Trapezium

$$\text{Area} = \frac{1}{2}(a + b)h$$



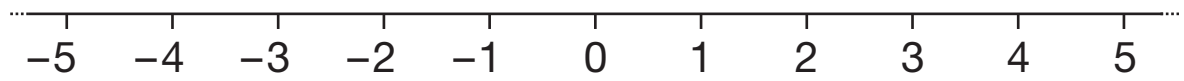
Prism

area of cross-section



$$\text{Volume} = \text{area of cross-section} \times \text{length}$$

2. Here is a number line.



It can help you work out the answers to the calculations below.

The first one is done for you.

$$-3 + 1 = \underline{-2}$$



$$-4 + 1 = \underline{\hspace{2cm}}$$

1 mark



$$-2 + 5 = \underline{\hspace{2cm}}$$


1 mark




$$3 - 5 = \underline{\hspace{2cm}}$$

1 mark

4. Write the missing numbers in the boxes.

 $8 \times \square = 800$

1 mark

 $0.8 \times \square = 8$

1 mark

5. Look at the calculation below.

Write the correct digits in the boxes.


 $\begin{array}{|c|c|c|} \hline 4 & 3 & \square \\ \hline \end{array} + \begin{array}{|c|c|c|} \hline 2 & \square & 8 \\ \hline \end{array} = \begin{array}{|c|c|c|} \hline \square & 7 & 5 \\ \hline \end{array}$

2 marks

7. (a) Henry thinks of a number **between 1 and 20**

He thinks of the number **12**

For each question below, tick (✓) Yes or No for Henry's number.



	Yes	No
Is it an even number?		
Is it a multiple of 3 ?		
Is it a factor of 18 ?		

1 mark

- (b) Ashraf also thinks of a number **between 1 and 20**

The table shows information about his number.

	Yes	No
Is it an even number?		✓
Is it a multiple of 3 ?	✓	
Is it a factor of 18 ?		✓

What is Ashraf's number?



1 mark

9. The table shows the temperatures in 10 cities on a day in December.

City	Temperature in °C
Athens	18
Barcelona	16
Berlin	7
Brussels	8
Dublin	9
Geneva	6
Madrid	12
Moscow	2
Paris	6
Rome	19

- (a) Which temperature was the **mode**?



_____ °C

_____ 1 mark

- (b) In a different city, the temperature was **5°C lower** than in **Moscow**.

What was the temperature in this city?

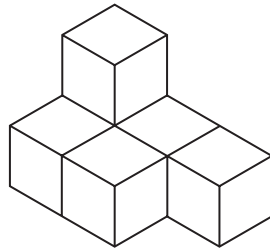


_____ °C

_____ 1 mark

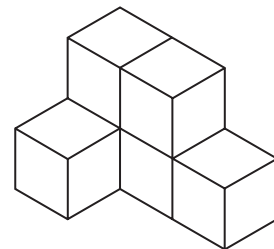
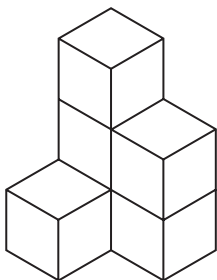
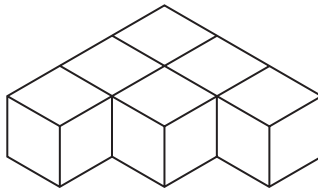
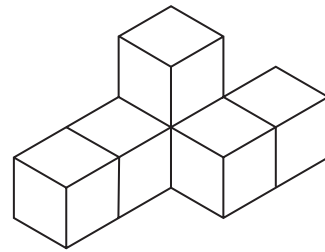
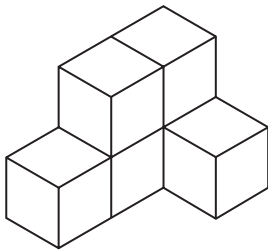
13. Each shape in this question is made from **six cubes**.

Look at this shape.



Which **two** of the diagrams below show the **same** shape?

Tick (✓) them both.



1 mark

16. (a) Write the correct numbers in the gaps below.

$$1 \times 3\frac{1}{2} = 3\frac{1}{2}$$

$$2 \times 3\frac{1}{2} = 7$$

$$3 \times 3\frac{1}{2} = 10\frac{1}{2}$$



$$4 \times 3\frac{1}{2} = \underline{\hspace{2cm}}$$

1 mark



$$5 \times 3\frac{1}{2} = \underline{\hspace{2cm}}$$

1 mark

$$6 \times 3\frac{1}{2} = 21$$

Use the table to help you work out this calculation.



$$60 \times 3\frac{1}{2} = \underline{\hspace{2cm}}$$

1 mark

(b) Is the answer to $11 \times 3\frac{1}{2}$ a whole number?



Yes

No

Explain your answer.



1 mark

17. Find the values of x

$$5x - 3 = 12$$



$x = \underline{\hspace{2cm}}$

1 mark

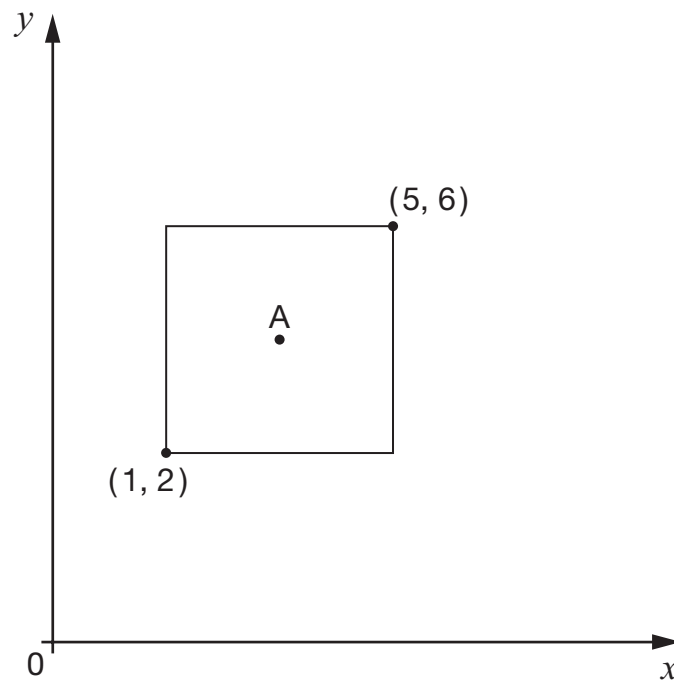
$$13 + 2x = 3$$



$x = \underline{\hspace{2cm}}$

1 mark

18. Look at the square drawn on the graph.



Not drawn
accurately

Point A is the centre of the square.

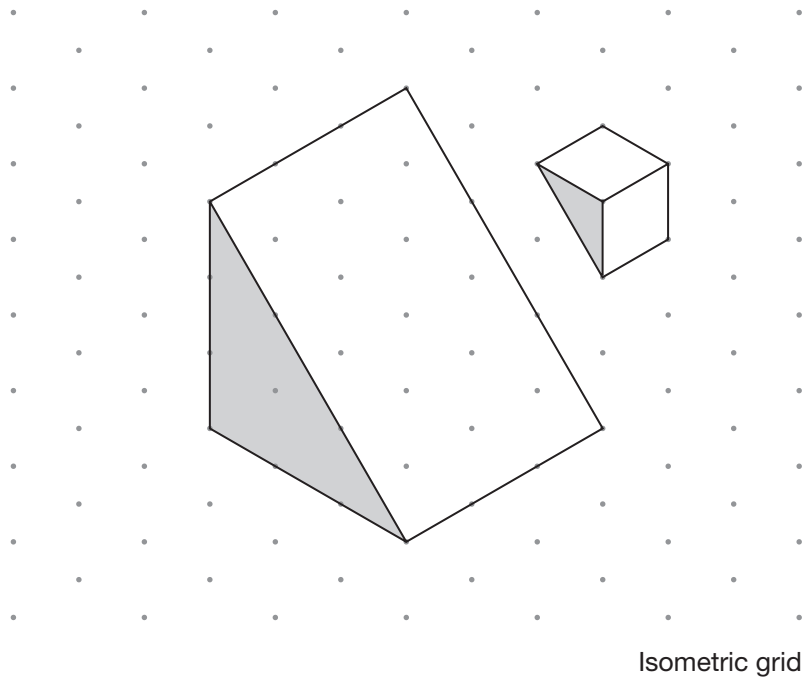
What are the coordinates of point A?



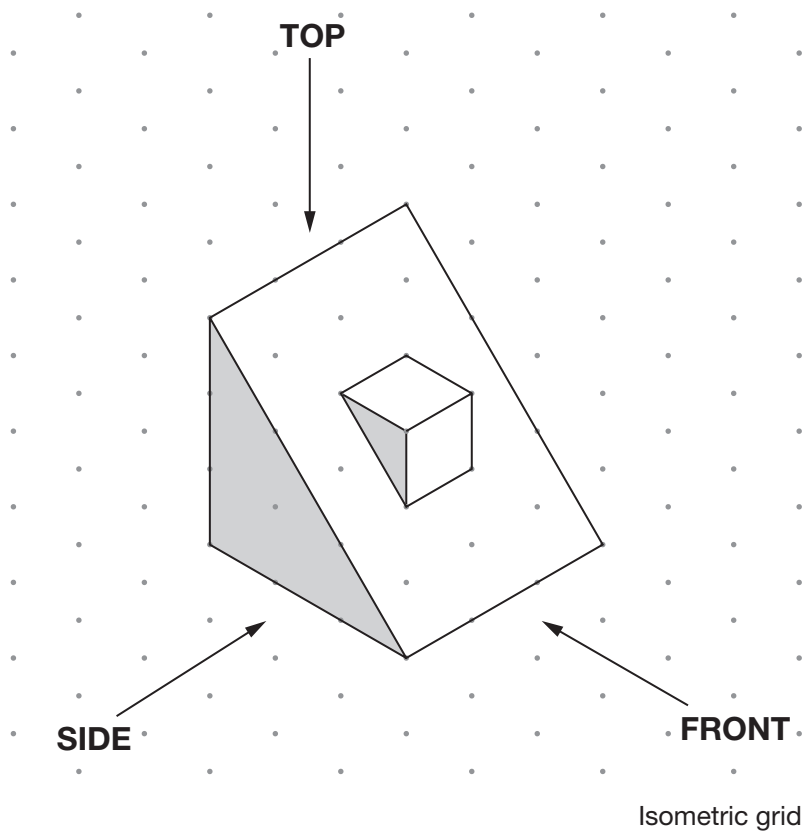
A is (_____ , _____)

2 marks

20. Look at the two triangular prisms.



They are joined to make the new shape below.



Complete the views of the new shape on the grid.

The first one is done for you.

View from
the **TOP**

View from
the **FRONT**

View from
the **SIDE**

Square grid

2 marks

21. I am thinking of a number.

My number is a **multiple of 6**

What **three other numbers** must my number be a multiple of?

_____, _____ and _____

1 mark



22. There are **25 pupils** in a class.

The table shows information about their test results in maths and English.

		English		
		Level 5	Level 6	Level 7
maths	Level 5	0	1	1
	Level 6	2	7	0
	Level 7	2	1	4
	Level 8	0	1	6

(a) How many pupils had the **same level** in both maths and English?



1 mark

(b) How many pupils had a **higher level** in **maths** than in English?



1 mark

24. The table shows whether pupils in a class walk to school.

	Walk to school	Do not walk to school
Boys	2	8
Girls	5	10

- (a) What percentage of the **boys** walk to school?



_____ %

 1 mark

- (b) What percentage of the **pupils** in this class walk to school?



_____ %

 2 marks

26. For each sequence below, tick (✓) the correct box to show if it is **increasing**, **decreasing** or **neither**.



					increasing	decreasing	neither
	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{5}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	$\frac{6}{13}$	$\frac{7}{12}$	$\frac{8}{11}$	$\frac{9}{10}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	$\frac{1}{2}$	$\frac{2}{4}$	$\frac{3}{6}$	$\frac{4}{8}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	$\frac{3}{2}$	$\frac{4}{3}$	$\frac{5}{4}$	$\frac{6}{5}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2 marks