

MATHEMATICS TEST

Top tips

- 9 Weed out your weaknesses**
So you've tried and tried and you still make silly errors and get algebra wrong. Here's what to do.
- Make up ways of correcting your worst habits.
 - Write it at the top of the answer book in pencil.
 - Go back and check when you need them during the exam.

- 10 Revision technique**
Look at different ways to help you revise. Ask your friends, parents, carers, brothers or sisters to ask you key facts. Put up revision sheets in places you can see them (the fridge, the bathroom door, the back of the car, the back of the cereal packet) and revise when you have two minutes to fill.

1

Think carefully about calculations

Think carefully about how you are going to work out an answer.

Decide whether to use:

- a mental calculation;
- a mental calculation with some jottings;
- a written method;
- a calculator.

On the mental mathematics paper you may jot down information while the question is being read to help you work out an answer. On Paper 1 make sure you show your working and on Paper 2 use your calculator if appropriate.

2

Pick out important words or symbols

When reading a question highlight important words that tell you which kind of calculation it is likely to be. Look for words like *sum* (addition) and *product* (multiplication). If you have to *calculate* a length or angle you should not measure it or use a scale diagram.

Have you started to revise yet?

- Work in 30-minute bursts.
- Take breaks away from your work.
- Don't look at a question and think you can't do it; attempt it and then check your answer.
- Note questions you are unsure about and ask for help in class.
- Use notes to help you remember key facts.

How to survive the exam

- Don't be afraid of the exam. If you are stuck, move on and come back to the question later.
- If you are still stuck, start by writing down what you know. It may jog your memory.
- Remember you often get marks for showing your method.

3

Always check that your answer is sensible

You'd be surprised how many people forget to write down the calculation that they are working on. Always write down any calculation, write down the answer to the calculation and then check to make sure that the answer is sensible.

- Do a rough estimate and then see if your answer is close.
- Does the answer feel about right?
- Check to see you have got the units correct and that you have written your answer in a correct way.
- Check if you were asked to give the answer to a certain number of decimal places or significant figures. If so, first write down all the figures on your calculator, then write the answer, to the correct degree of accuracy, in the answer box.

4

Remember the order of calculations

When doing a calculation work out:

- brackets first ()
- then powers 5^3
- then division and multiplication
- finally addition and subtraction

Know how your calculator works and make sure it is on the right settings for the exam.

5

Justify your answer

Often pupils manage to get an answer correct but many forget to give a reason for their answer. Improve your marks by:

- explaining how you worked out angles, or lengths, from those you were given;
- explaining how you came to conclusions about the data or graphs.

6

The big DON'T DO IT!

The biggest of all the big DON'T DO ITs is:

- *Don't assume a diagram is drawn accurately unless you are told it is.* Diagrams are usually not accurate so you will have to work out distances and angles rather than measure them. Write the values you have worked out on your diagram.
- Do not misread scales. Check, by writing on the scale, values that you have read from a graph. Make sure that they make sense.
- Never give the probability of an event as a ratio or as odds.

7

Remember the rules of algebra

Remember that algebra has the same rules as arithmetic. An expression $(3n + 2)$ should not be confused with an equation $(y = 3n + 2)$.

Remember addition (+) and subtraction (−) are inverses of each other, as are division (÷) and multiplication (×).

8

Remember key facts

You need to know and be able to use the following facts. Look at ways to help remember them.

- The formula for the circumference of a circle is $C = 2\pi r$.
- The formula for the area of a circle is $A = \pi r^2$. Use the π key on your calculator or the approximate value given in the question.
- The mode is the most common value.
- When results are arranged in order, the middle value is the median.
- The $\frac{m+e+a+n}{4}$ is the sum of all the values divided by the number of values.
- The largest value take away the smallest value is the range.
- The probability of an event that is certain to happen is 1.
The probability of an impossible event is 0.
All other probabilities lie between 0 and 1.
- The sum of the probabilities of all possible events, with no overlap, is 1.