

Mathematics **Year 7**

Brief outline of scheme of work, including topics to be covered:

Pupils are taught in mixed ability form groups until approximately October. During this time they consolidate basic skills followed by a test which helps to set the pupils across two half years BEL and VID. Three forms are split into four ability sets. Each set follows the same syllabus:- Measures, data, numbers (negative), multiples, factors, sequences, graphs, decimals, fractions, percentage and probability.

Details of any assessments or exams (including timings):

Each unit of work is assessed with a test. A common exam base on all of Year 7 work is taken by all pupils in May and this helps to determine Year 8 setting.

Any other details:..

Revision guides are given to each pupil to prepare for exam.

Top sets are entered for the Junior Maths Challenge in April/May.

Mathematics – Sample Year 7 questions

11) Work out the following:

a) $12 - 14 =$

d) $15 - 24 =$

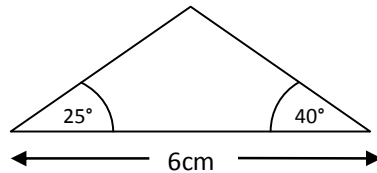
b) $-5 + 10 =$

e) $-3 - 8 =$

c) $-4 - 7 =$

f) $(-4) + (-3) =$

12) This is a sketch of a triangle. It is not drawn accurately. Draw the triangle accurately.



13) For the numbers below:

7 3 1 8 2 8 6

Find:

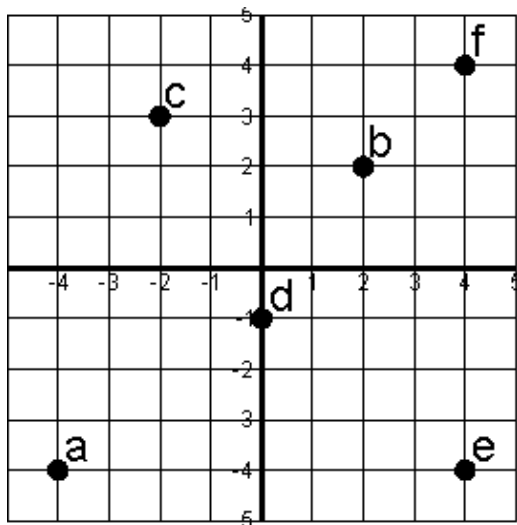
a) The median _____

b) The mode _____

c) The mean _____

d) The range _____

14)



What are the co-ordinates of:

a)

b)

c)

d)

e)

f)

Mathematics

Year 8

Brief outline of scheme of work, including topics to be covered:

Year 8 is split into 7 sets based on the ability and performance in Year 7. All pupils follow the same syllabus but at different rates according to ability. Each unit of work is tested and levelled. Topics covered: Perimeter, Area Symmetry, Transformations, Algebra, Angles, Polygons, Isometric Drawing, Fractions and Percentage.

Details of any assessments or exams (including timings):

As well as the tests mentioned above, there is a common Year 8 exam based on the year's work. This takes place in April.

Any other details:

In November, the whole year group is taken to Mathemagic at Techniquet, Wrexham.

Top sets are entered for the Junior Maths Challenge in April/May.

Mathematics – Sample Year 8 questions

13) Remove the brackets in the questions below and simplify:

- a) $4(x+3)$ _____
- b) $4(x-2)$ _____
- c) $4(x+y)$ _____
- d) $4(2x+3y)$ _____
- e) $3(x+4) + 5(x+5)$ _____
- f) $5(x-2) - 6(x-3)$ _____

14) Calculate the answer to:

$6 \times 7 + 2 \times =$ _____

15) Solve the following equations (hint: magic bridge). Show all workings.

- a) $x + 2 = 7$
- b) $x - 9 = 5$
- c) $5x = 30$
- d) $\frac{x}{7} = 2$
- e) $5x + 10 = 35$
- f) $\frac{x}{2} + 10 = 20$

16) I think of a number. I add 18 to this number, the result is 30. What is the number? Show all workings.

17) If $n=6$, find the value of:

- | | | | |
|---------------|-------|-------------|-------|
| a) $n+3$ | _____ | f) $3(n+1)$ | _____ |
| b) $n-1$ | _____ | g) n^2 | _____ |
| c) $2n$ | _____ | h) $2n^2$ | _____ |
| d) $2n-1$ | _____ | i) $(2n)^2$ | _____ |
| e) $n \div 3$ | _____ | | |

18) The formula for the area of a triangle is:

$$area = \frac{1}{2}bh$$

Find the area when $b=5\text{cm}$ and $h=6\text{cm}$

Mathematics

Year 9

Brief outline of scheme of work, including topics to be covered:

Percentages, Ration, Proportions, Rotational and Line Symmetry, Congruency, Algebra, Statistics, Averages, Charts, Spread and Inferences, Transformations, Sequences, Linear Equations, Solving and drawing Circles (π), Bearings and Locus.

Details of any assessments or exams (including timings):

Each unit of work is assessed with a level test.
Pupils sit the KS3 SATS in May in any one of the following tiers:

Level 3-5 Set 6,7
Level 4-6 Set 4,5
Level 5-7 Set 2,3
Level 6-8 Set 1

Any other details:

We provide revision material in exam preparation leading to the KS3 SATS. At this point we perform some changes in the sets (based on KS3 results) in preparation for the start of GCSE Course in Year 10.

Mathematics – Sample Year 9 questions

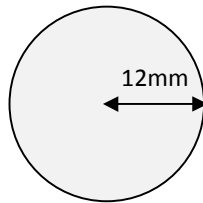
1)

- A circle has a radius of 15cm. Calculate the area of the circle. Show your working.
- A different circle has a circumference of 120cm. What is the radius of the circle? Show your working.

2) A trundle wheel is used to measure distances. Imran makes a trundle wheel of diameter 50cm.

- Calculate the circumference of Imran's trundle wheel. Show your working.
- Imran uses his trundle wheel to measure the length of the school car park. His trundle wheel rotates 87 times. What is the length of the car park to the nearest metre?

3) The diagram shows a circle and a square.



Not drawn to scale

- The radius of the circle is 12mm. What is the area of the circle to the nearest mm^2 ? Show your working.
- The ratio of the area of the circle to the area of the square is 2:1. What is the area of the square to the nearest mm^2 ?
- What is the side length of the square? Show your working.

Mathematics **Year 10**

Brief outline of scheme of work, including topics to be covered:

Each pupil in the Maths Department in KS4 follows the Edexcel syllabus (www.edexcel.org.uk). The format has recently changed from 3 tier to 2 tier. The higher tier covers Grades A* to D and the Foundation Tier G to C. This means a Grade C is now accessible in both tiers. Sets 1,2,3,4 and part of Set 5 attempt the higher level. Sets 5,6 and 7 take the foundation tier.

Details of any assessments or exams (including timings):

Each topic is usually assessed with a levelled test. After the Easter break all pupils attempt a GCSE exam in the appropriate tier and awarded grades.

Details of any coursework, or equivalent (including timings):

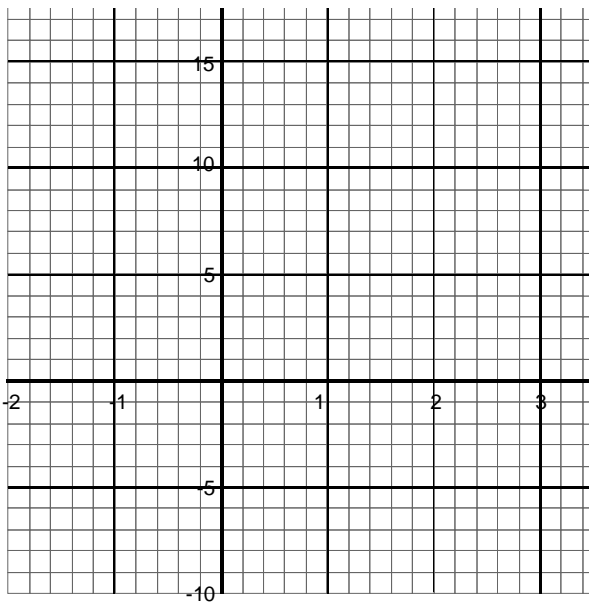
Coursework is no longer done in Maths.

Any other details:

Weekly homework is in preparation for the Year 10 exam and it is very important that pupils attempt them.

Top sets are entered for Maths Challenge in February.

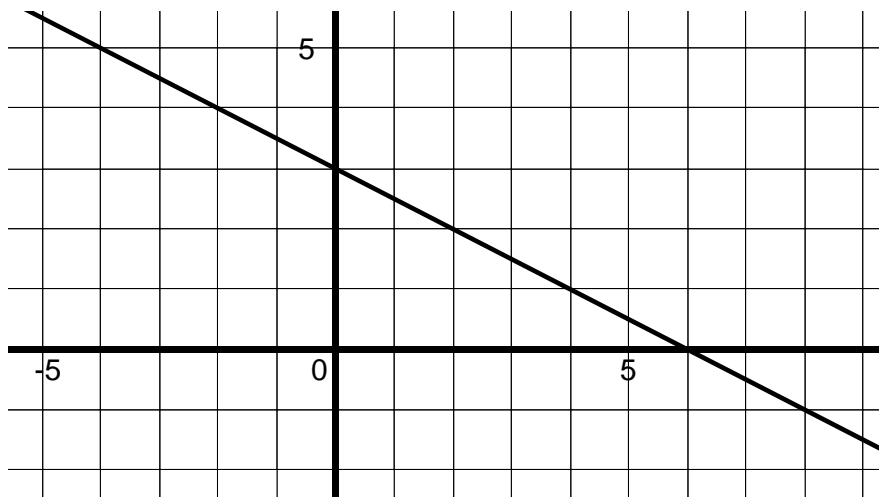
Mathematics – Sample Year 10 questions



x	-2	-1	0	1	2	3
y	-5			4		10

(b) On the grid, draw the graph of $y=3x+1$. [1 mark]

(c) Use your graph to find the value of x when $y=6$. [1 mark]



- (a) Rearrange the equation $x+2y=6$ to make y the subject. [2 marks]
- (b) Write down the gradient of the line with equation $x+2y=6$ [2 marks]
- (c) Write down the equation of the line which is parallel to the line with equation $x+2y=6$ and passes through the point with the coordinates $(0,7)$. [1 mark]

Mathematics

Year 11

Brief outline of scheme of work, including topics to be covered:

The present Year 11 who take the GCSE in 2008 are taking the Edexcel 2 tier exam (with coursework). The higher tier covers Grades A* to D and the Foundation G to C. This means that a C grade is available for all pupils. Sets 1,2,3,4 and part of Set 5 attempt the higher and the remainder attempt foundation.

Details of any assessments or exams (including timings):

Mock exams (Dec) are 2 past GCSE papers in the 2 tier exams (calculator and non-calculator)

Details of any coursework, or equivalent (including timings):

2 courseworks for the 2008 cohort only. These are an Algebraic coursework 'Sticks' or 'Open box' and a Data coursework 'Mayfield High' and cover 20% of the marks.

Any other details:

Weekly homeworks are essential to prepare for the Mock exam. Thereafter past papers in the run up to the real exam are set and marked by the teachers.

A revision guide is given to the pupils.

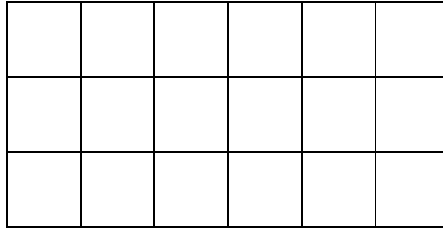
A work book and answers are sold to pupils (approx £3) in the Spring for practice in study period prior to the exam.

Upper sets attempt the Intermediate Maths Challenge in February.

Mathematics – GCSE foundation exam – Sample questions

2. (a) Shade $\frac{2}{3}$ of this shape.

[1 mark]



(b) Write $\frac{3}{5}$

i. as a decimal

ii. as a percentage

[2 marks]

(c)

i. Write down **thirty one thousand three hundred and two** in figures.

ii. Write down 13820 to the nearest thousand.

[2 marks]

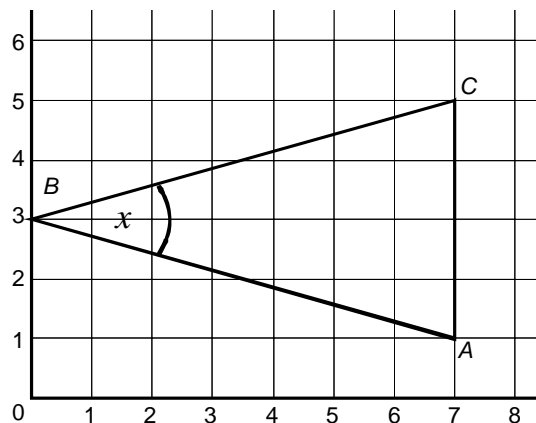
(d) Explain how you would estimate 97×62 .

[2 marks]

3. Complete the shopping bill.

3 bottles of Cola at £1.13 per bottle	£
2 ½ kg of potatoes at 30p per kg	£
Total	£

4. The diagram shows a triangle ABC on a centimetre grid.



(a) Write down the coordinates of the point

(i) A .

(ii) B .

[2 marks]

(b) Write down the special name for triangle ABC .

[1 mark]

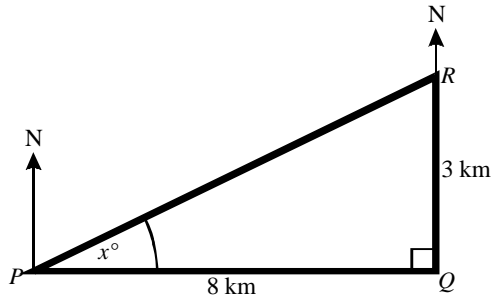
(c) Work out the area of the triangle ABC .

[1 mark]

(d) Measure the length of the line AB . Give your answer in millimetres.

[1 mark]

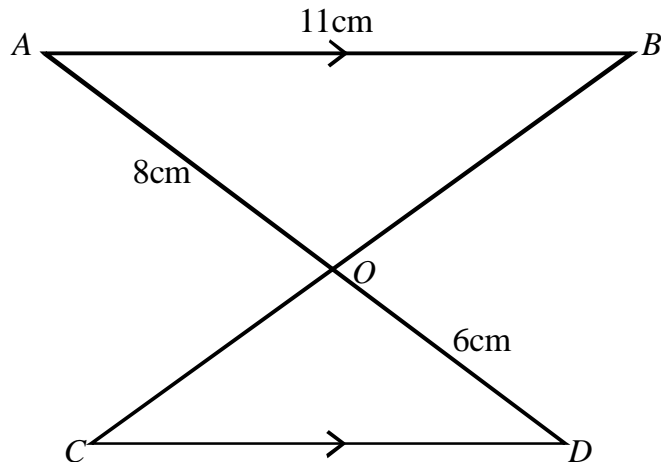
Mathematics – GCSE intermediate exam – Sample questions



10. The diagram shows the position of three schools P, Q and R.
 School P is 8 kilometres due West of school Q.
 School R is 3 kilometres due North of school Q.

- (a) Calculate the size of the angle marked x° . Give your answer correct to one decimal place. [3 marks]
- (b) Simon's house is 8 kilometres due East of school Q. Calculate the bearing of Simon's house from school R. [2 marks]
11. (i) Factorise $x^2 - 6x + 8$
- (ii) Solve the equation $x^2 - 6x + 8 = 0$ [3 marks]

12.



AB is parallel to CD .

The lines AD and BC intersect a point O .

$AB = 11\text{cm}$, $AO = 8\text{cm}$, $OD = 6\text{cm}$

Calculate the length of CD .

[3 marks]

Mathematics – GCSE higher exam – Sample questions

13. The table shows the number of student in three groups attending Maths City High School last Monday. No student belonged to more than one group.

Group	Number of students
<i>A</i>	135
<i>B</i>	225
<i>C</i>	200

Mrs. Allen carried out a survey about the students' travelling times from home to school last Monday.

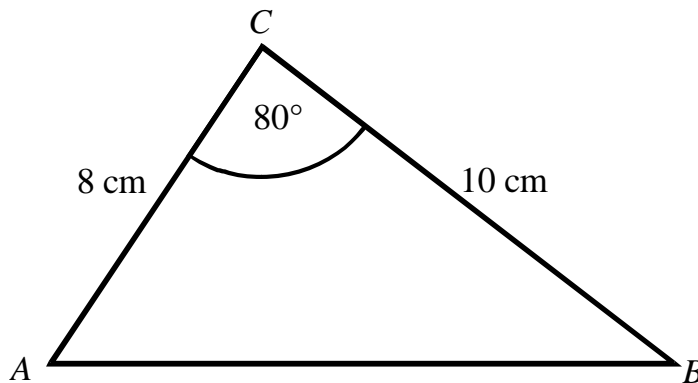
Mrs. Allen worked out that:

- The mean time for Group A students was 24 minutes.
- The mean time for Group B students was 32 minutes.
- The mean time for Group C students was the same as the mean time for all 560 students.

(a) Work out the mean time for all 560 students. [4 marks]

Mrs. Allen interviewed some of these students. She used a stratified sample of 50 students according to each group.

(b) Work out the number of students from each group which should have been in her sample of 50. [3 marks]



14. (a) Calculate the length of AB.
Give your answer in centimetres correct to 3 significant figures. [3 marks]

(b) Calculate the size of the angle ABC.
Give your answer correct to 3 significant figures. [3 marks]