
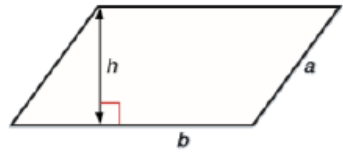


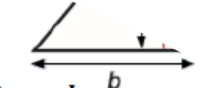
Rectangle area =  $l \times w$



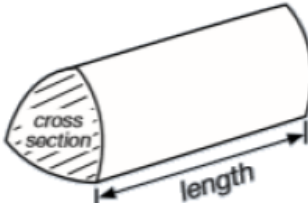
Parallelogram area =  $b \times h$



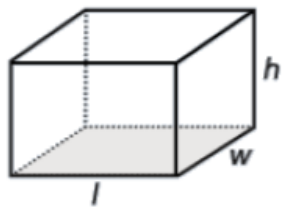
Triangle area =  $\frac{b \times h}{2}$




Prism volume = area of cross section  $\times$  length

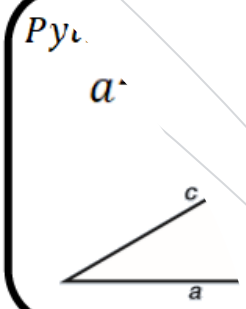


Cuboid volume =  $l \times w \times h$




Cylinder volume =  $\pi r^2 h$






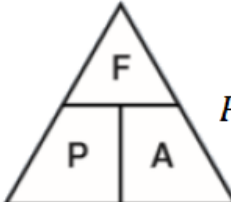
Speed =  $\frac{\text{distance}}{\text{time}}$



Density =  $\frac{\text{mass}}{\text{volume}}$



Pressure =  $\frac{\text{Force}}{\text{Area}}$



Sum of interior angles =  $(n - 2) \times 180$

REGULAR polygon =  $\frac{360}{n}$

*n* is the number of sides

Constructing Pie Charts

Angle =  $\frac{\text{frequency}}{\text{total}} \times 360$

Love

# GCSE Mathematics at The Friary

# About the Maths exam



Exam Board

Edexcel



Tiers

Higher (Grade 4-9)  
Foundation (Grade 1-5)



3 Papers

1 Non-calculator

2 Calculator

Each 1.5hrs long

Write your name here  
Surname Other names  
Centre Number Candidate Number  
**Pearson Edexcel**  
Level 1/Level 2 GCSE (9-1)  
**Mathematics**  
Paper 1 (Non-Calculator) Foundation Tier  
Paper Reference: 1MA1/1F  
Thursday 24 May 2018 – Morning  
Time: 1 hour 30 minutes  
Total Marks

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.

Write your name here  
Surname Other names  
Centre Number Candidate Number  
**Pearson Edexcel**  
Level 1/Level 2 GCSE (9-1)  
**Mathematics**  
Paper 2 (Calculator) Foundation Tier  
Paper Reference: 1MA1/2F  
Thursday 7 June 2018 – Morning  
Time: 1 hour 30 minutes  
Total Marks

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

- Instructions**
- Use **black** ink or ball-point pen.
  - Fill in the boxes** at the top of this page with your name, centre number and candidate number.
  - Answer **all** questions.
  - Answer the questions in the spaces provided – there may be more space than you need.
  - You must **show all your working**.
  - Diagrams are **NOT** accurately drawn, unless otherwise indicated.
  - Calculators may be used.**
  - If your calculator does not have a  $\pi$  button, take the value of  $\pi$  to be 3.142 unless the question instructs otherwise.

- Information**
- The total mark for this paper is 80
  - The marks for **each** question are shown in brackets – use this as a guide as to how much time to spend on each question.

- Advice**
- Read each question carefully before you start to answer it.
  - Keep an eye on the time.
  - Try to answer every question.
  - Check your answers if you have time at the end.



Write your name here  
Surname Other names  
Centre Number Candidate Number  
**Pearson Edexcel**  
Level 1/Level 2 GCSE (9-1)  
**Mathematics**  
Paper 3 (Calculator) Foundation Tier  
Paper Reference: 1MA1/3F  
Tuesday 12 June 2018 – Morning  
Time: 1 hour 30 minutes  
Total Marks

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

- Instructions**
- Use **black** ink or ball-point pen.
  - Fill in the boxes** at the top of this page with your name, centre number and candidate number.
  - Answer **all** questions.
  - Answer the questions in the spaces provided – there may be more space than you need.
  - You must **show all your working**.
  - Diagrams are **NOT** accurately drawn, unless otherwise indicated.
  - Calculators may be used.**
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- Information**
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- Advice**
- Read each question carefully before you start to answer it.
  - Keep an eye on the time.
  - Try to answer every question.
  - Check your answers if you have time at the end.



# Exam Papers in Focus: Higher

Write 124 as a product of its prime factors.

Cormac has some sweets in a bag.  
The sweets are lime flavoured or strawberry flavoured or orange flavoured.

In the bag

number of lime flavoured sweets : number of strawberry flavoured sweets : number of orange flavoured sweets =  $9 : 4 : x$

Cormac is going to take at random a sweet from the bag.

The probability that he takes a lime flavoured sweet is  $\frac{3}{7}$

Work out the value of  $x$ .

Work out the value of  $\frac{\left(5\frac{4}{9}\right)^{-\frac{1}{2}} \times \left(4\frac{2}{3}\right)}{2^{-3}}$

You must show all your working.

A delivery company has a total of 160 cars and vans.

the number of cars : the number of vans =  $3 : 7$

Each car and each van uses electricity or diesel or petrol.

$\frac{1}{8}$  of the cars use electricity.

25% of the cars use diesel.

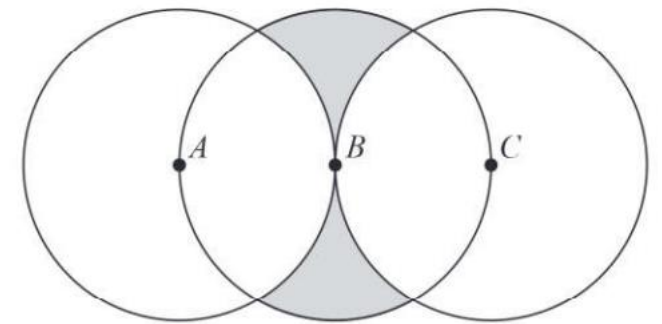
The rest of the cars use petrol.

Work out the number of cars that use petrol.

You must show all your working.

The diagram shows three circles, each of radius 4 cm.

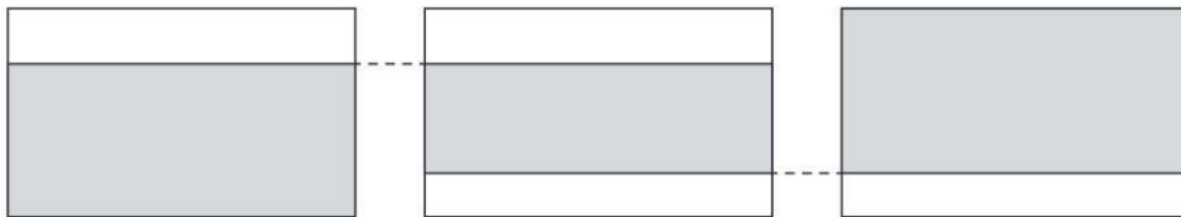
The centres of the circles are  $A$ ,  $B$  and  $C$  such that  $ABC$  is a straight line and  $AB = BC = 4$  cm.



Work out the total area of the two shaded regions.  
Give your answer in terms of  $\pi$

# Exam Papers in Focus: Foundation

The diagram shows three identical rectangles **A**, **B** and **C**.



Rectangle **A**

Rectangle **B**

Rectangle **C**

$\frac{5}{8}$  of rectangle **A** is shaded.

$\frac{9}{11}$  of rectangle **C** is shaded.

Work out the fraction of rectangle **B** that is shaded.

A delivery company has a total of 160 cars and vans.

the number of cars : the number of vans = 3 : 7

Each car and each van uses electricity or diesel or petrol.

$\frac{1}{8}$  of the cars use electricity.

25% of the cars use diesel.

The rest of the cars use petrol.

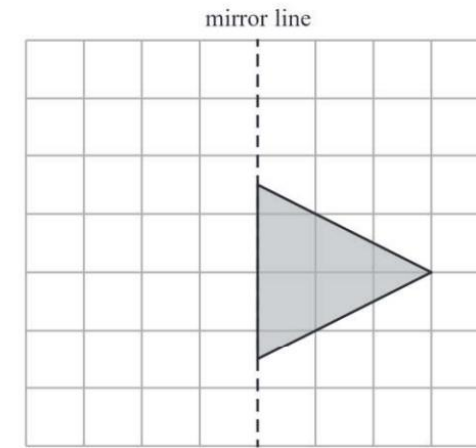
Work out the number of cars that use petrol.

You must show all your working.

Change 40 centimetres into millimetres.

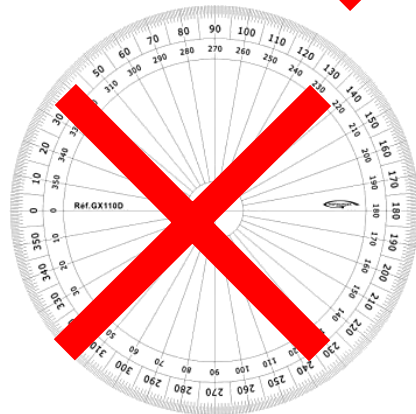
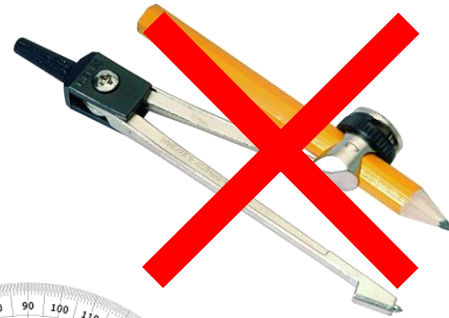
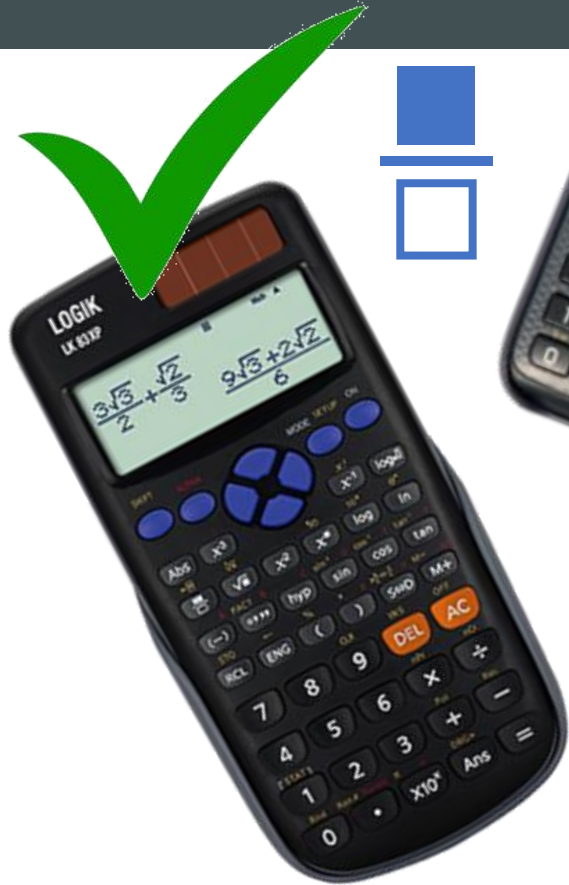
Simplify  $e + e + e + e$

On the grid, reflect the shaded triangle in the mirror line.



(Total for Question 3 is 1 mark)

# Equipment



Calculator

+

All other standard  
equipment for lessons  
(pen, pencil, ruler etc)

Students DO NOT need a  
pair of compasses, or a  
protractor as we lend  
those out when we need  
them

# Assessment

- 1 end of half term assessment
- 2-3 learning checks throughout each half term
- Focus is current topic with some previous content addressed
- Revision homework set and checked for completion
- Revision in class
- Focus on exam technique
- Specific after school booster sessions

Y10 Assessment 5  
Foundation -

## Foundation Learning Check 1

Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Time: 40 minutes Marks: 32  
 AG: \_\_\_\_\_  
 TOTAL: /32  
 TG: \_\_\_\_\_  
 Score: /45 Target Grade: \_\_\_\_\_


q1. (a) Write these numbers in order of size.  
 Start with the smallest number.  
 52 102 25 120 55

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

Topics		
AO1 FLUENCY: Inequalities- listing integers		
AO1 FLUENCY: Inequalities- solving linear inequalities		
AO1 FLUENCY: Inequalities- representing on a number line		
AO1 FLUENCY: Sequences- generating and continuing		
AO1 FLUENCY: Sequences- finding the nth term		
AO1 FLUENCY: Sequences- justifying why a number is in a sequence		
AO1 FLUENCY: Angles in Parallel Lines- finding an angle		
AO1 FLUENCY: Angles in Parallel Lines- Justifying		
AO1 FLUENCY: Angles in Polygons- calculating missing angles		
AO2 REASONING: Solving an inequalities problem		

Y10 Assessment 1  
Higher Tier – Set 2

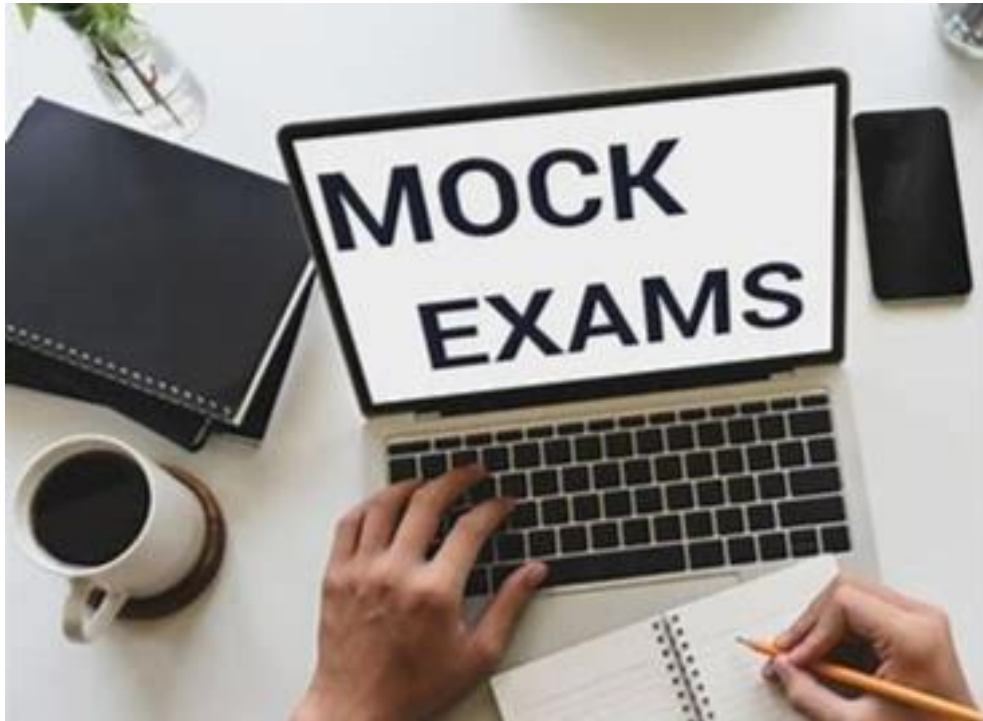
Autumn: Term 1a



Assessed Grade: \_\_\_\_\_

	+	T
Column vectors		
Calculating with speed, distance, time		
AO1 FLUENCY: Finding the density of liquids		
AO1 FLUENCY: Constructing cumulative frequency curves		
AO1 FLUENCY: Graphing Inequalities and identifying regions		
AO1 FLUENCY: Comparing cumulative frequency curves and box plots		
AO2 FLUENCY: Vector geometry in terms of <b>a</b> and <b>b</b>		
AO2 REASONING: Vector geometry involving ratios		
AO2 REASONING: Identifying mistakes in vector geometry		
AO3 PROBLEM SOLVING: Speed distance time problem		

# Key Assessment Timeline



Mid-Year Assessment  
takes place in February

Y10 Mocks- June. This will assess both pupils' calculator and non-calculator skills. This will be the first time that Year 10 pupils will complete two full papers in the sports hall. This is in preparation for the Y11 November mocks, where pupils will sit a full set of 3 GCSE papers.

# Topic Overview for this half term

## Set 3B/4

- Powers
- Decimals and rounding
- HCF/LCM
- Expressions, substitution and formulae
- Constructing and interpreting graphs, tables and charts

## Set 3A

- Expanding brackets with single and double brackets
- Factorising to single and double brackets
- Solving Quadratic Equations
- Standard form – writing and calculating with very large and very small numbers.
- Direct and Inverse Proportion

## Set 1

- Ratio to linear functions
- Volumes of complex 3D shapes – spheres, cones, frustums
- Vectors – column, geometric and proof
- Congruent shapes, conditions and proof
- Indices – fractional and negative

## Set 2

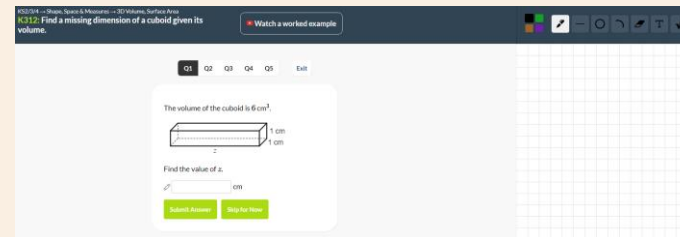
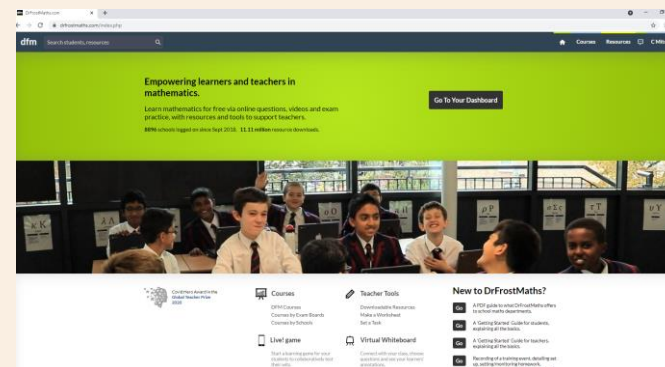
- Ratio to linear functions
- Volumes of complex 3D shapes – spheres, cones, frustums
- Vectors – column, geometric and proof
- Indices – fractional and negative



# Home Learning

## Homework Tasks

### Dr Frost Website



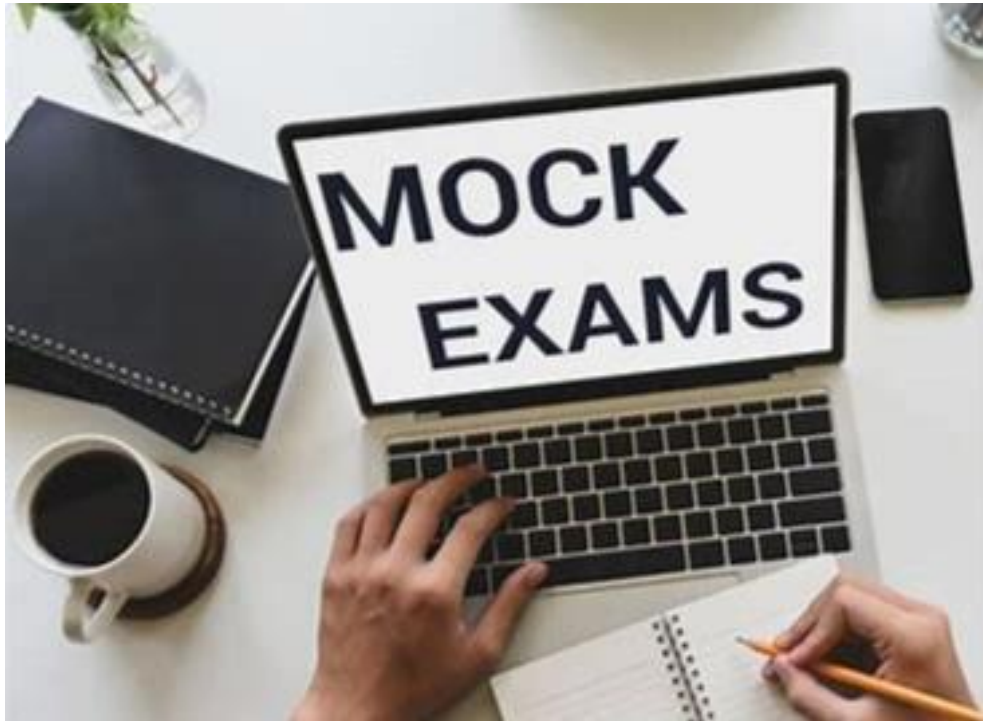
### Homework Tasks Information

- Set weekly
- Focuses on current learning and retrieving old learning
- Expected to be fully completed

### Dr Frost Information

- Login is school email address, password is "friary"
- Earn points – links to house points and student of the week
- In class studying, revision, new learning

# Expectations



Mid-Year Assessment  
takes place in February

Y10 Mocks- June. This will  
assess both pupils'  
calculator and non-  
calculator skills. This will be  
the first time that Year 10  
pupils will complete two  
full papers in the sports  
hall. This is in preparation  
for the Y11 November  
mocks, where pupils will sit  
a full set of 3 GCSE papers.

# What can students do to improve their Maths?

## Websites

<https://www.drfrostmaths.com/>

<https://www.mathsgenie.co.uk/>

<https://corbettmaths.com/>

## Revision Workbooks

Resources on these websites include

- Video tutorials
- Exam questions
- Textbook questions
- Full solutions
- Revision pages
- Games

# PRACTICE MAKES PERMANENT

