

Key Stage 4 Mathematics
2026-2027



Pearson Edexcel 1MA1
GCSE Mathematics
examinations

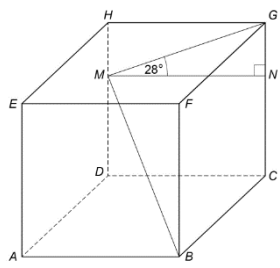
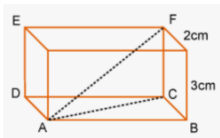
TERMS
3 & 4
Gap
analysis

PRELIMS
TERM 4

$$\sin^2 \theta + \cos^2 \theta = 1 \quad \tan \theta = \frac{\sin \theta}{\cos \theta}$$

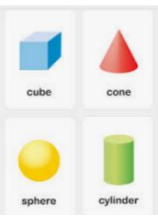
Show that $2\cos^2 \theta \equiv 2 - 2\sin^2 \theta$

Hence, solve $2\cos^2 \theta + 3\sin \theta = 3$ for $0 < \theta < 180^\circ$



Volume of Sphere
 $= \frac{4}{3} \pi r^3$

Volume of Cone
 $= \frac{1}{3} \pi r^2 h$



Ratios of angles
and their graphs

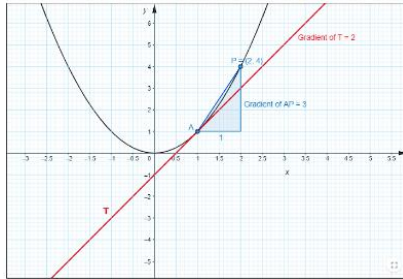
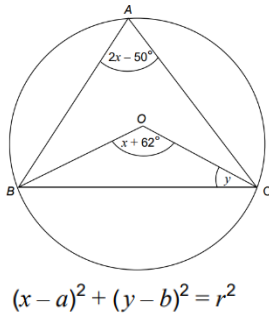
Pythagoras' theorem
in three dimensions

Trigonometry
in triangles

Geometric
proof

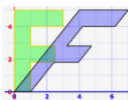
6. Geometry
TERMS 1 to 3

$$\begin{aligned} (a+b)^0 &= 1 \\ (a+b)^1 &= a+b \\ (a+b)^2 &= a^2 + 2ab + b^2 \\ (a+b)^3 &= a^3 + 3a^2b + 3ab^2 + b^3 \\ (a+b)^4 &= a^4 + 4a^3b + 6a^2b^2 + 4ab^3 + b^4 \\ (a+b)^5 &= a^5 + 5a^4b + 10a^3b^2 + 10a^2b^3 + 5ab^4 + b^5 \end{aligned}$$



$$y = ax^n$$
$$\frac{dy}{dx} = nax^{n-1}$$

Year 10
Maths
retrieval
practice



$$I = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

$$A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$$

1. Number
TERMS 1 & 2

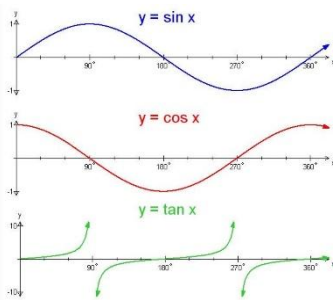
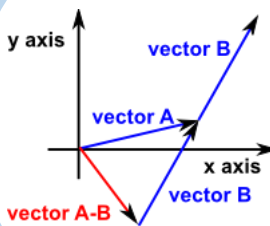
2. Algebra
and proof
TERMS 1 to 3

3. Coordinate geometry and
the coordinate geometry of circles
TERMS 1 to 3

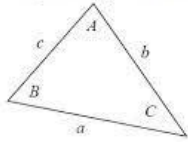
4. Calculus
TERMS 2 & 3

5. Matrix
transformations
TERMS 2 to 4

PRELIMS TERM 2



Trigonometry of the triangle



$$\text{Area} = \frac{1}{2} ab \sin C$$

Sine rule: $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

Cosine rule: $a^2 = b^2 + c^2 - 2bc \cos A$



Direct proportion



Inverse proportion

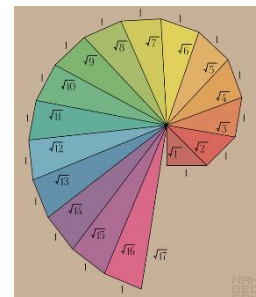
25: Vector
geometry

24: Algebraic fractions
and functions
TERM 6

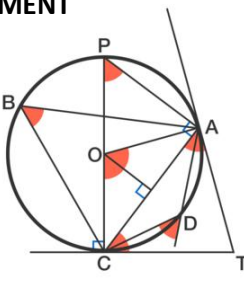
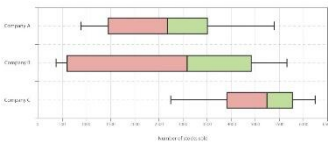
23: Graphs

22: Triangles
PRELIMS
TERM 5

21: Variation



Simplify
 $\frac{5x}{10x^2 - 30x}$



$$\frac{5}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{5\sqrt{3}}{3}$$

$$\frac{4}{\sqrt{5}} + \frac{11}{5 - \sqrt{3}}$$

16: Counting,
accuracy, powers
and surds

17: Quadratic
equations
TERM 2

18: Sampling and more
complex diagrams
TERM 3

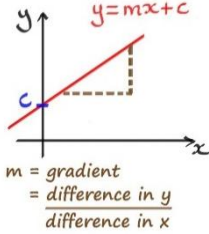
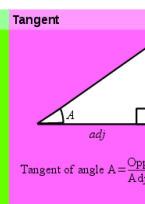
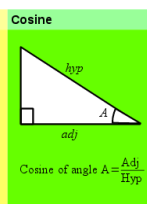
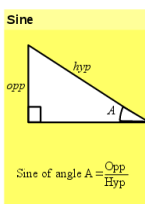
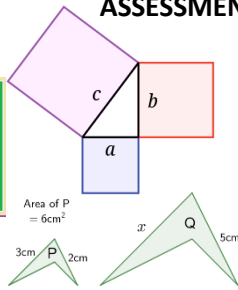
19: Combined
events

20: Properties
of circles
TERM 4

ASSESSMENT

ASSESSMENT

ASSESSMENT



$m = \text{gradient}$
 $= \frac{\text{difference in } y}{\text{difference in } x}$

Year 9 topics
retrieval
practice

15: Equations
and inequalities

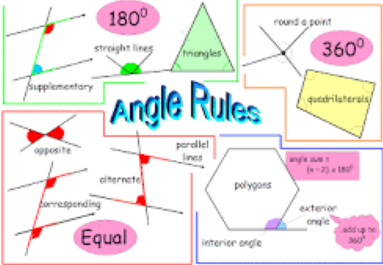
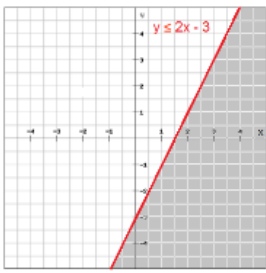
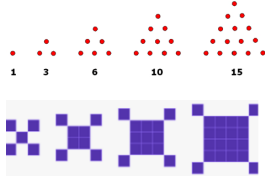
14 : Powers
and standard
form

13 : Exploring and
applying probability

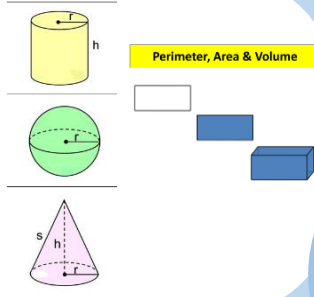
12: Similarity

11: Right-
angled
triangles

10. Linear
Graphs



coefficient variable constant
 $5x + 7 = \sqrt{2}$
expression expression
equation
Terms: $5x, 7, \sqrt{2}$



KS3 Maths
retrieval
practice

4: Number
and
sequences

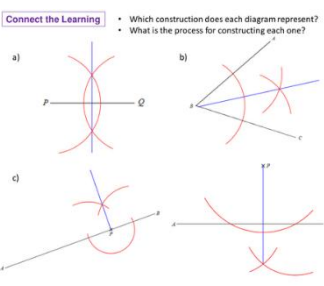
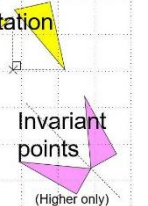
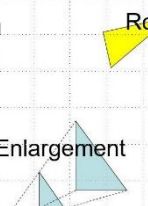
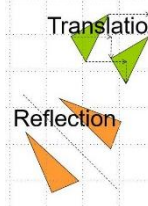
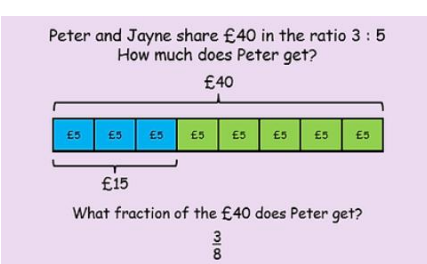
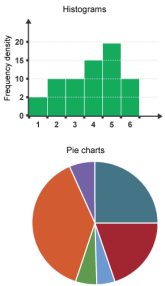
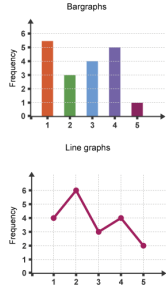
5 : Ratio
and
proportion

6: Angles

7: Transformations,
constructions and loci

8: Algebraic
manipulation

9: Length, area
and volume



KS3 Maths
retrieval
practice

3: Statistical
diagrams and
averages

2: Fractions,
ratio and
proportion

1: Basic
number

AQA Level 2 Certificate
in Further Mathematics

Collins Edexcel GCSE Maths
Higher Student Book

START

The **range** is not an average, but tells
you how the data is spread out:

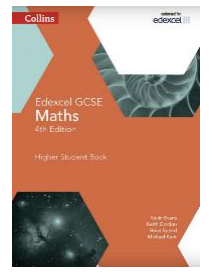
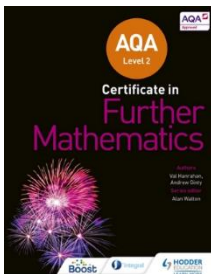
RANGE
largest value - smallest value

MODE
most common

MEAN
sum of values
number of values

MEDIAN
middle value

AO1 Use and apply standard
techniques
AO2 Reason, interpret and
communicate mathematically
AO3 Solve problems within
mathematics and in other contexts



Year
10