

Junior Cycle Exam Guide

Don't forget:

- Your pens/pencils
- Your calculator
- Your maths set
- Answer ALL the questions as best as you can

Overall Exam Structure 2 hour exam

- Topics/Order of questions varies each year
- Some short questions , some long questions
- No particular order
- Some questions will link more than one topic together

Timing

- Follow suggested maximum time for each question – DON'T GO OVER THIS TIME
- You should have plenty of time at the end to go back over any questions you are unsure about – you might want to asterisk/mark/highlight these in the margin as you go.

Tips

- See Timing (above)
- Know how to use maths set – practice constructions (see website)
- Make sure you have a proper calculator and that you know how to use it
- Try every question:
 - This doesn't mean write down the first thing that comes into your head. Think about it. Read the question carefully. Get started.
- SHOW YOUR WORK – any calculation – no matter how big/small. WRITE IT DOWN – You don't have to show minute detail (no long division for example). Just write down what you would type into the calculator.
- HILLIARD'S LAW OF VISUAL REPRESENTATIONS!
 - If you see any graph / chart / table / diagram – put your finger on part of it, and say as much as you can about that bit, then do the same until you have a decent idea of what's going on. Refer to the words in the question to help.
- Take your time. Write clearly. Not too big. Not too small. Take an extra second to think about how/where to lay out your work

Any further questions?

- **Message me on Teams. I might not be able to respond straight away, but I'll do my best.**

Topics

Number

Sets / Number Systems

- Symbols
- Venn Diagrams
- Factors/Multiples

Arithmetic

- Calculator
- Ratio
- Indices (Powers)
- Rounding/Fractions
- Decimals/Percentages
- Distance/Speed/Time

Patterns & Sequences

- Types of sequence
- Graphs
- Find next term/formula

Applied Arithmetic

- Money / Bills
- VAT
- Income Tax
- Interest

Algebra & Functions

Algebra Basics

- Simplifying
- Substitution
- Solving Linear Equations

Specials:

- Inequalities
- Simultaneous Equations
- Write as a single fraction
- Factorising (4 Types)
- Forming equations from given information / Word Problems
- Quadratic Equations

Functions/Graphs

- Domain/Range
- Functions
- Graphs of Quadratic functions
- Questions based on your graph

Real Life Graphs

- Interpret
- Distance/Time Graphs

Probability & Statistics

Counting/Probability

- Outcomes (e.g. Tree Diagrams/Two-way tables/Lists)
- Fundamental Principle of Counting
- Probability Scale
- Words/Numbers
- Experimental Probability

Statistics

- Collecting Data
 - Types of data
 - Methods of collecting data
- Analysing Data
 - Average: Mean/Median/Mode
 - Range
- Presenting Data
 - Bar Charts
 - Pie Charts
 - Line Plots
 - Histograms
 - Stem and Leaf Diagrams

Shape

Area and Volume

- Measurement / Metric System
- Perimeter / Area
- Volume

Geometry

- Basic shapes/lines
- Types of Angles/Triangles
- Facts/Theorems
- Vertically Opposite / Corresponding / Alternate Angles
- Parallelograms
- Constructions (Website)
- Transformations (Axial/Central Symmetry)

Trigonometry

- Pythagoras
- SOH CAH TOA (including inverse)
- Picture Problems

Co-ordinate Geometry

- X-axis / Y-axis
- Plot points
- Slope (Rise/Run)
- Distance (Pythagoras)
- Mid-point (Half-way)
- Equation of line