ICAS

MATHEMATICS
ASSESSMENT FRAMEWORK

The questions assume concepts outlined in earlier papers. They increase in complexity throughout the paper and encourage the use of higher-order thinking skills.

PAPER I & J

CALCULATORS NOT PERMITTED

NUMBER & ARITHMETIC	ALGEBRA & PATTERNS	MEASURES & UNITS	SPACE & GEOMETRY	STATISTICS & PROBABILITY

Questions may require students to:

NUMBER
- apply index laws involving integer and fractional indices
- convert numbers to scientific notation

ARITHMETIC
- solve problems involving simple and compound interest
- operate on surds

ALGEBRA
- apply index laws to simplify expressions
- expand and simplify binomials
- substitute and rearrange to solve equation
- factorise quadratics
- calculate midpoints, distance and gradient
- solve linear inequalities and graph solution on number line
- solve linear simultaneous equations
- solve problems involving parallel and perpendicular lines
- graph transformations of parabolas, hyperbolae, polynomials and circles

MEASURES
- solve problems with very small time scales and intervals

MEASUREMENT
- calculate areas of composite shapes
- calculate surface area and volume of cylinders, cones, spheres and right pyramids

SPACE
- solve problems involving bearings, depression, elevation and area

SHAPE

GEOMETRY
- use trigonometry to solve 3-D problems
- find unknown sides and angles using sine and cosine rules

PROBABILITY
- use two-step probability with and without replacement
- calculate relative frequencies
- calculate probabilities involving 'and' and 'or'
- solve problems involving conditional probability

STATISTICS
- interpret and compare back-to-back stem and leaf plots, and histograms
- compare displays using measures of location and spread
- interpret box plots and scatterplots
- identify quartiles
- describe distributions

LEARN MORE

ICAS Paper to Year Level Conversion Table www.eaa.unsw.edu.au/icas/paper-to-year-level-equivalent-table.asp

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