

## Maths Feb 2023 PPE Foundation Topic Checklist

### Paper 1: Non-calculator

| Topic  | R | A | G |
|--|---|---|---|
| Converting between metric units  |   |   |   |
| Radius and diameter of a circle  |   |   |   |
| Converting between fractions, decimals and percentages                                       |   |   |   |
| Squaring numbers   |   |   |   |
| Simplifying algebraic expressions  |   |   |   |
| Reading values from a table  |   |   |   |
| Calculating a percentage of an amount  |   |   |   |
| Calculating a fraction of an amount  |   |   |   |
| Finding the area of a rectangle and a triangle   |   |   |   |
| Properties of quadrilaterals (parallelogram, rhombus, trapezium, rectangle)                  |   |   |   |
| Using information given about a calculation, to work out the answer to a similar calculation |   |   |   |
| Best buy problems  |   |   |   |
| Calculations with ratio  |   |   |   |
| Multiplying decimals (non-calculator method)   |   |   |   |
| Solving linear equations   |   |   |   |
| Solving linear equations with x on both sides  |   |   |   |
| Problem solving with ratio   |   |   |   |
| Single event probability   |   |   |   |
| Dividing an amount in a given ratio  |   |   |   |
| Expanding single brackets  |   |   |   |
| Finding the range from a grouped frequency table   |   |   |   |
| Finding the median class from a grouped frequency table                                      |   |   |   |
| Column vector notation   |   |   |   |
| Calculations with fractions  |   |   |   |
| Order of operations (BoDMAS/BiDMAS)  |   |   |   |
| Solving inequalities   |   |   |   |
| Completing Venn diagrams   |   |   |   |
| Laws of indices  |   |   |   |
| Trig values for 30, 45, 60°  |   |   |   |
| Right angled trigonometry SOH CAH TOA (finding a length)                                     |   |   |   |

## Paper 2: Calculator

| Topic  | R | A | G |
|--|---|---|---|
| Recognising factors and multiples                        |   |   |   |
| Place value  |   |   |   |
| Ordering negative numbers                                |   |   |   |
| Ordering decimals  |   |   |   |
| Lines of symmetry  |   |   |   |
| Laws of indices  |   |   |   |
| Multiplying and dividing by 10, 100, 1000, etc.          |   |   |   |
| Adding decimals  |   |   |   |
| Multiplying fractions                                    |   |   |   |
| Finding square numbers using a calculator                |   |   |   |
| Finding square roots using a calculator                  |   |   |   |
| Pictograms   |   |   |   |
| Single event probability                                 |   |   |   |
| Substituting values into expressions                     |   |   |   |
| Multiplying integers and decimals                        |   |   |   |
| Rearranging formulae (make x the subject)                |   |   |   |
| Distance-time graphs                                     |   |   |   |
| Recognising parts of a circle                            |   |   |   |
| Graphs of horizontal and vertical lines                  |   |   |   |
| Reading from a pie chart                                 |   |   |   |
| Recognising powers of 10                                 |   |   |   |
| Calculations with money                                  |   |   |   |
| Calculating a percentage change                          |   |   |   |
| Problem solving with ratio                               |   |   |   |
| Reading from composite bar charts                        |   |   |   |
| Finding cube roots using a calculator                    |   |   |   |
| Volume of a cuboid                                       |   |   |   |
| Surface area of a cuboid                                 |   |   |   |
| Co-ordinates of the y intercept of a straight-line graph |   |   |   |
| Pythagoras' theorem (find shorter side)                  |   |   |   |
| Perimeter of a rectangle                                 |   |   |   |
| Product of prime factors                                 |   |   |   |
| Finding the highest common factor (Venn diagram method)  |   |   |   |

### Paper 3: Calculator

| Topic   | R | A | G |
|---|---|---|---|
| Compass points and angles                               |   |   |   |
| Forming algebraic expressions                           |   |   |   |
| Finding numbers on a number line                        |   |   |   |
| Types of angles (acute, obtuse, reflex)                 |   |   |   |
| Recognising prime numbers and cube numbers              |   |   |   |
| Basic angle rules                                       |   |   |   |
| Solving linear equations                                |   |   |   |
| Converting between fractions, decimals and percentages  |   |   |   |
| Probability scale                                       |   |   |   |
| Continuing a linear sequence                            |   |   |   |
| Plotting straight line graphs                           |   |   |   |
| Operations with negative numbers                        |   |   |   |
| Frequency trees   |   |   |   |
| Finding the lowest common multiple                      |   |   |   |
| Function machines                                       |   |   |   |
| Recognising edges, vertices and faces of a solid object |   |   |   |
| Drawing congruent shapes                                |   |   |   |
| Enlarging shapes  |   |   |   |
| Finding mean and median from a vertical line graph      |   |   |   |
| Single event probability                                |   |   |   |
| Scale drawings  |   |   |   |
| Reading inequalities                                    |   |   |   |
| Converting between different currencies                 |   |   |   |
| Direct proportion problems                              |   |   |   |
| Reading from scatter graphs                             |   |   |   |
| Find the area of a trapezium                            |   |   |   |
| Finding the area of a triangle                          |   |   |   |
| Problem solving with ratio                              |   |   |   |
| Calculating density                                     |   |   |   |
| Finding the gradient of a line from 2 co-ordinates      |   |   |   |
| Substituting values into expressions                    |   |   |   |
| Relative frequency                                      |   |   |   |
| Inverse proportion                                      |   |   |   |
| Calculating arc length                                  |   |   |   |
| Speed, distance and time                                |   |   |   |

