

Book 8C contents

FM: indicates sections that address functional mathematics

Oral and mental starters

(Teacher's guide only) Ideas for teacher-led activities for use at the start of a lesson

1 Graphs that tell stories 4 **FM: AC**

Understanding a graph that shows how something changes as time passes (water levels, including in shaped containers, and speed)

2 Scaling 13 **FM: DE**

Recognising and drawing enlargements; scale factors (including fractions to denote scaling down); using maps and scale drawings; ratio notation for maps and scale drawings

3 Graphs and charts 22 **FM: all**

Time series graphs; divided frequency bar charts

4 Solving equations 29

Forming and solving equations with the unknown on both sides, including those with brackets and those with a subtracted constant term on either side; solving 'think of a number' puzzles by forming solving equations

5 Solids 36

Identifying and drawing cross sections of a solid; planes of symmetry of solids

6 Units 44 **FM: all**

Metric units of area, capacity and volume; approximate conversion between metric and imperial measures; conversion between cm^2 and m^2 , and between cm^3 and m^3

7 Simplifying expressions 49

Collecting terms where some are subtracted; forming equations from puzzles and solving them

8 Fractions and decimals 55

Ordering, adding and subtracting fractions; multiplying and dividing a whole number by a fraction; conversion between fractions and decimals, including recurring decimals

Review 1 60

9 Transformations 63

Reflection, rotation, translation and enlargement from a centre on a coordinate grid; combinations of transformations

10 True, iffy, false 1 74

Distinguishing between statements about numbers that are always true, never true and true in certain circumstances

11 Linear equations and graphs 75 **FM: A**

Positive and negative gradient; relating a graph to an equation in the form $y = mx + c$

12 Percentage changes 81 **FM: all**

Writing a percentage as a decimal; calculating the result of a percentage increase or decrease; successive percentage increase or decrease; expressing a change as a percentage

Pupils' book ISBN 978-0-521-53801-5

Teacher's guide ISBN 978-0-521-53802-2

Resource sheets for Books 8C and 8S ISBN 978-0-521-53807-7

Practice for Book 8C ISBN 978-0-521-53803-9

Order from educustserve@cambridge.org +44 (0)1223 325588

An assessment pack for books 8T, 8S and 8C is available from the SMP office: go to www.smpmaths.org.uk for details or email office@smpmaths.org.uk

13 True, iffy, false 2 87

Distinguishing between spatial statements that are always true, never true and true in certain circumstances

14 Probability from experiments 88

FM: all

Relative frequency as an estimate of probability, including use to estimate future frequency; simulations

15 Bearings 96 **FM: AB**

Measuring and recording; fixing a point given its bearings from two points; plotting a journey given the distance and bearing of each stage

16 Forming equations 100

Forming an equation, including with the unknown on both sides, from a given situation and solving it

Review 2 111

17 Ratio and proportion 114 **FM: ACEF**

Problems where direct proportion applies; the unitary method; use of graphs including conversion graphs; relating ratios to fractions

18 No chance! 123 **FM: E**

Equally likely outcomes of combined events listed or shown on a grid; use to find probabilities; comparing probabilities; sampling methods

19 Strips 131

Simplifying by collecting terms, including with brackets; forming and solving equations

20 The right connections 137 **FM: all**

Scatter diagrams; degree of positive or negative correlation; line of best fit

21 Triangles and polygons 145

Constructing a triangle from given lengths and angles; sum of the angles of a triangle including proof; interior and exterior angles of a polygon

22 Moving around 154 **FM: all**

Speed, distance and time; dealing with hours and minutes on a calculator

23 Substitution 163

Substituting values into a formula where several letters occur

24 Locus 171

A locus as: a set of points defined in some way, a path of a single moving point; loci in three dimensions

25 Distributions 177 **FM: all**

Revision of mean, median, range and mode, including the mean from ungrouped frequencies; stem-and-leaf tables; discrete and continuous data; frequency polygons; estimating the mean of a grouped frequency distribution

Review 3 189