

Book 9T 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 Number bites 4 **FM: DM**

Practice with a range of number skills to be dipped into from time to time

2 Clock polygons 10

Finding congruent triangles and quadrilaterals

3 Decimals 11 **FM: all**

With- and without-calculator work on money, including calculating the cost of a decimal quantity of some substance; rounding to the nearest penny; comparing to find the best buy

4 Making rules 19

Finding and using a linear formula for the number of objects in the n th pattern in a series of patterns; graphs from linear rules

5 Fractions 29

Fractions of a shape; calculating a fraction of a number; simplifying fractions, expressing one number as a fraction of another; mixed numbers; adding and subtracting fractions with the same denominator

Review 1 36

6 Probability 38

Working out which of two things is more likely to happen; writing a probability as a fraction; comparing fractions and, hence, probabilities

7 Earning money 45 **FM: all**

Calculating with hourly rates of pay; rounding to the nearest penny

8 Garden centre 47 **FM: all**

Display of priced products for quick teacher-led practice of mental arithmetic or pencil and paper methods

9 Percentages 48 **FM: all**

Working out 50%, 25%, 75%, 10%, 5% and other simple percentages of quantities

10 Square deal 54

Number problems on 'hollow' grids containing numbers that follow linear rules going across and down; using algebra on these grids; simplifying linear expressions; proving simple general statements

11 Pie charts 62 **FM: all**

Reading off quantities, fractions and percentages from pie charts with graduations shown

12 Probability experiments 67 **FM: all**

Relative frequency as an estimate of probability

Review 2 73

13 Division 75 **FM: BCE**

Dividing a whole number by a one- or two-digit number without a calculator; dealing with remainders; solving problems; dividing a decimal by a one-digit number

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Teacher's guide ISBN 978-0-521-53820-6

Resource sheets for Book 9T ISBN 978-0-521-53822-0

Practice for Book 9T ISBN 978-0-521-53821-3

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An assessment pack for books 9T, 9S and 9C is available from the SMP office: go to www.smpmaths.org.uk for details or email office@smpmaths.org.uk

14 Bottles 83 FM: all

Display of different sized bottles of fragrances with their prices shown, for teacher-led practice, without and with a calculator

15 Transformations 84

Revision of reflection and rotation on a grid; translation on a grid

16 Groundwork 91 FM: all

Area and perimeter of rectangles and shapes made from them; area of right-angled triangles

17 Number relationships 94

Revision of multiples, factors and square numbers; prime numbers; square roots

18 Simplifying 99

Collecting like terms to simplify expressions; proving simple general statements

19 Two-way tables 106 FM: all

Compiling a table from information; reading a table, including expressing one number as a fraction of another

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20 Angles and lines 113

Acute, obtuse and reflex angles; estimating angles; sum of angles on a straight line, of angles round a point, of interior angles of a triangle; drawing triangles from given lengths and angles; making an accurate copy of a net

21 True or false? 123

Using a counterexample to prove that a general statement is false

22 Time and timetables 124 FM: all

Using a calendar; 12-hour clock and 24-hour clock; using transport timetables

23 More negative numbers 130 FM: A

Adding positive and negative numbers

24 Ratio 136 FM: all

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