

1 Linear formulas 6

Refresh 8

- 1.1 Linear relations 10
 - 1.2 Formulas for straight lines 14
 - 1.3 Making linear formulas 18
 - 1.4 Directly proportional 22
 - 1.5 Line through two points 26
 - 1.6 Mixed exercises 30
- Summary 32
Test yourself 36
Extra exercises 38

2 Statistics 40

Refresh 42

- 2.1 Ratio table 44
 - 2.2 Pie chart 48
 - 2.3 Frequency table, bar chart and frequency polygon 52
 - 2.4 Mean, mode and median 56
 - 2.5 Stem-and-leaf diagram 60
 - 2.6 Grouping data 64
 - 2.7 Mixed exercises 68
- Summary 70
Test yourself 74
Extra exercises 76

Skills 1 78

- Dividing numbers 80
- Formulas and graphs 81
- Equations 82
- Time 82
- Angles 83

In depth | Shoe and clothing sizes 84

3 Roots 88

Refresh 90

- 3.1 Square roots 92
 - 3.2 Adding and subtracting square roots 96
 - 3.3 Multiplying square roots 100
 - 3.4 Simplifying square roots 104
 - 3.5 Cubic roots 108
 - 3.6 Mixed exercises 112
- Summary 114
Test yourself 118
Extra exercises 120

4 Similarity 122

Refresh 124

- 4.1 Enlargements 126
 - 4.2 Calculating with a scale factor 130
 - 4.3 Similar figures 134
 - 4.4 Calculating using similarity 138
 - 4.5 Mixed exercises 142
- Summary 144
Test yourself 148
Extra exercises 150

Skills 2 152

- Order of operations 154
- Time 155
- Powers 155
- Geometry 156
- Formulas, graphs and equations 157

In depth | Congruent triangles 158

5 Quadratic formulas 162

Refresh 164

- 5.1 Removing single brackets 166
 - 5.2 Removing double brackets 170
 - 5.3 Shortening formulas 174
 - 5.4 Quadratic formulas 178
 - 5.5 Quadratic equations 182
 - 5.6 Mixed exercises 186
- Summary 188
Test yourself 192
Extra exercises 194

6 Pythagoras' theorem 196

Refresh 198

- 6.1 Pythagoras' theorem 200
 - 6.2 Calculating a side 204
 - 6.3 Applying the theorem 208
 - 6.4 Pythagoras in solids 212
 - 6.5 Right, acute or obtuse 216
 - 6.6 Mixed exercises 220
- Summary 222
Test yourself 226
Extra exercises 228

Skills 3 230

- Fractions 232
- Roots and powers 233
- Equations 234
- Formulas with brackets 234
- Geometry 235

In depth | Rational and
irrational numbers 236

Index 240