

Mathletics

Series



Teacher



$30 \times 3 = 90$ $121 \div 11$
 75×81 $000 \times 4 = 4000$
 $113 \div 12$ $824 \div 5 = 164$

Multiplication and Division

$113 \div 12$ $824 \div 5 = 164$
 75×81 $000 \times 4 = 4000$
 $30 \times 3 = 90$ $121 \div 11$



Series G – Multiplication and Division

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Series G – Multiplication and Division

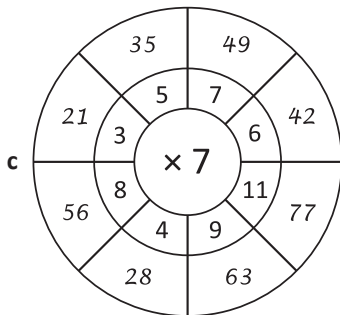
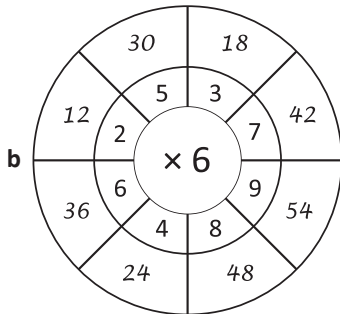
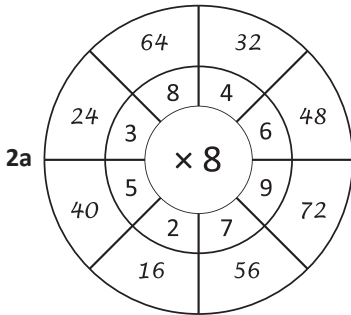
Pages 1–2

1a 1, 3, 5, 15

b 1, 2, 4, 8, 16

c 1, 2, 11

d 1, 2, 4, 7, 14, 28



3 29; 41; 13; 17

4a 1, 2, 4

b 1, 2

c 1, 2, 4, 8

d 1, 2, 3, 4, 6

5a 12, 24, 36

b 14, 28, 42

c 20, 40, 60

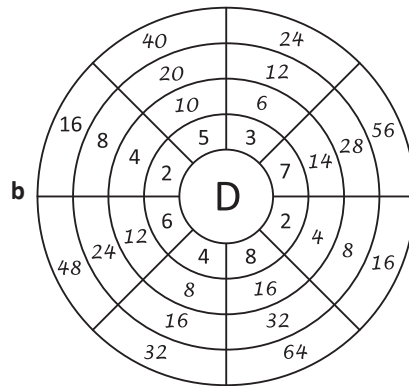
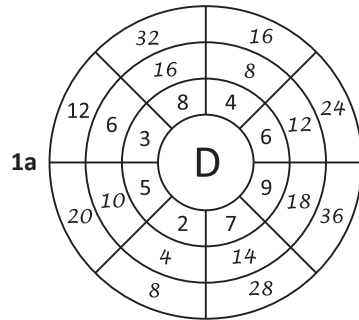
d 6, 12, 18

6a 21 or 63

b 180

c 72

Pages 3–4



2b 620; 1,240; 2,480

c 46; 92; 184

d 104; 208; 416

e 210; 420; 840

f 804; 1,608; 3,216

3b 35; 70

c 63; 126

d 63; 126

e 78; 156

f 72; 144

4

Double	
32	64
48	96
55	110
84	168
96	192
19	38

Halve	
68	34
150	75
144	72
48	24
50	25
122	61

5a odd number \times even number
 15×8

$$30 \times 4 = 120$$

even number \times even number
 30×18

$$60 \times 9 = 540$$

b You can double any number but you can't evenly halve an odd number.

6a $6 \times 14 = 12 \times 7 = 84$

b $4 \times 16 = 8 \times 8 = 64$

c $25 \times 16 = 50 \times 8 = 400$

d $25 \times 12 = 50 \times 6 = 300$

e $16 \times 25 = 8 \times 50 = \text{£}400$

f $5 \times 22 = 10 \times 11 = 110$

Page 5

1a 420

b £980

c 55

d 4,200

e £9,800

f 550

g 42,000

h £98,000

i 5,500

2a $2 \times 9 \times 10 = 180$

b $4 \times 9 \times 100 = 3,600$

c $6 \times 6 \times 100 = 3,600$

d $2 \times 3 \times 10,000 = 60,000$

e $51 \times 3 \times 100 = 15,300$

Series G – Multiplication and Division

Page 6

1a

$$\begin{array}{r}
 52 \times 8 \\
 \swarrow \quad \searrow \\
 (50 \times 8) + (2 \times 8) \\
 \hline
 400 + 16 \\
 \hline
 = 416
 \end{array}$$

b

$$\begin{array}{r}
 73 \times 9 \\
 \swarrow \quad \searrow \\
 (70 \times 9) + (3 \times 9) \\
 \hline
 630 + 27 \\
 \hline
 = 657
 \end{array}$$

c

$$\begin{array}{r}
 82 \times 6 \\
 \swarrow \quad \searrow \\
 (80 \times 6) + (2 \times 6) \\
 \hline
 480 + 12 \\
 \hline
 = 492
 \end{array}$$

d

$$\begin{array}{r}
 25 \times 9 \\
 \swarrow \quad \searrow \\
 (20 \times 9) + (5 \times 9) \\
 \hline
 180 + 45 \\
 \hline
 = 225
 \end{array}$$

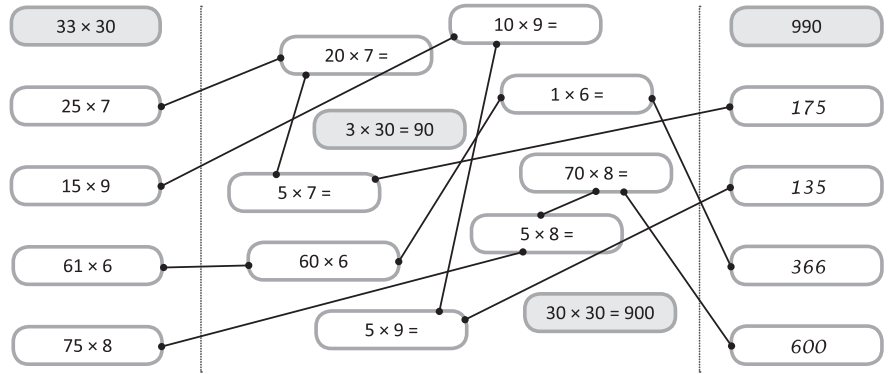
e

$$\begin{array}{r}
 75 \times 5 \\
 \swarrow \quad \searrow \\
 (70 \times 5) + (5 \times 5) \\
 \hline
 350 + 25 \\
 \hline
 = 375
 \end{array}$$

f

$$\begin{array}{r}
 16 \times 12 \\
 \swarrow \quad \searrow \\
 (10 \times 12) + (6 \times 12) \\
 \hline
 120 + 72 \\
 \hline
 = 192
 \end{array}$$

2



Page 7

1a $39 \times 3 = 120 - (1 \times 3) = 117$

b $8 \times 49 = 400 - (1 \times 8) = 392$

c $78 \times 5 = 400 - (2 \times 5) = 390$

d $7 \times 41 = 280 + (1 + 7) = 287$

e $72 \times 5 = 350 + (2 + 5) = 360$

2a e: £60

$$(3 \times 20) - 0.06 = £59.94$$

b e: £36

$$(4 \times 9) - 0.08 = £35.92$$

c e: £10

$$(5 \times 2) - 0.25 = £9.75$$

d e: £24

$$(8 \times 3) - 0.40 = £23.60$$

Page 8

1a 3; 3

b 4; 4

c 6; 6

d 3; 3

e 5; 5

f 12; 12

2a 12

b 9

c 11

2d 12

e 4 r 1

f 4 r 5

g 6 r 2

h 9 r 5

3a 5

b I would cut each cake into eighths or quarters as there are two of them.

c 8 r 6

Page 9

1a

$$\begin{array}{r}
 112 \div 8 \\
 \swarrow \quad \searrow \\
 80 \quad 32 \\
 \div 8 \quad \div 8 \\
 \hline
 10 + 4 = 14
 \end{array}$$

b

$$\begin{array}{r}
 115 \div 5 \\
 \swarrow \quad \searrow \\
 100 \quad 15 \\
 \div 5 \quad \div 5 \\
 \hline
 20 + 3 = 23
 \end{array}$$

c

$$\begin{array}{r}
 102 \div 6 \\
 \swarrow \quad \searrow \\
 60 \quad 42 \\
 \div 6 \quad \div 6 \\
 \hline
 10 + 7 = 17
 \end{array}$$

Series G – Multiplication and Division

Page 9

2a 4 r 4

b 71

c 63

d 21

e 98

f 62

3a 106

b 12

c 96

Pages 10–11

1a 45 1, 45, 3, 15, 5, 9

72 1, 72, 2, 36, 3, 24, 4, 18, 6, 12, 8, 9

144 1, 144, 2, 72, 3, 48, 4, 36, 6, 24, 8, 18, 9, 16, 12

100 1, 100, 2, 50, 4, 25, 5, 20, 10

48 1, 48, 2, 24, 3, 16, 4, 12, 6, 8

64 1, 64, 2, 32, 8, 4, 16

b Answers will vary.

Possible answers:

42 21×2 6×7

24 2×12 3×8

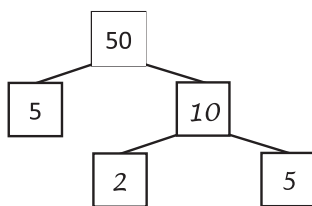
90 9×10 2×45

120 2×60 3×40

132 4×33 2×66

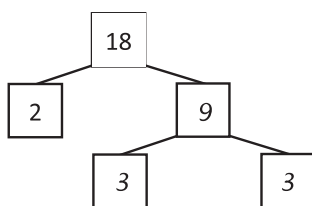
240 2×120 4×60

2a



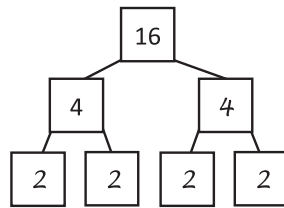
$$\underline{5} \times \underline{2} \times \underline{5} = 50$$

b



$$\underline{2} \times \underline{3} \times \underline{3} = 18$$

2c

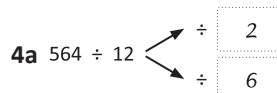


$$\underline{2} \times \underline{2} \times \underline{2} \times \underline{2} = 16$$

3a 4, 2, 3, 6, 12

b 25

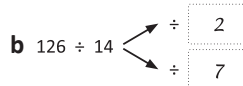
c 9



$$\underline{564} \div \underline{2} = \underline{282}$$

$$\underline{282} \div \underline{6} = \underline{47}$$

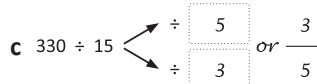
$$= \underline{47}$$



$$\underline{126} \div \underline{2} = \underline{63}$$

$$\underline{63} \div \underline{7} = \underline{9}$$

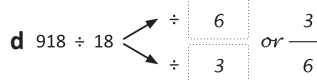
$$= \underline{9}$$



$$\underline{330} \div \underline{5} = \underline{66} \quad 330 \div 3 = 110$$

$$\underline{66} \div \underline{3} = \underline{22} \quad 110 \div 5 = 22$$

$$= \underline{22}$$



$$\underline{918} \div \underline{6} = \underline{153} \quad 918 \div 3 = 306$$

$$\underline{153} \div \underline{3} = \underline{51} \quad 306 \div 6 = 51$$

$$= \underline{51}$$

5a ✓

b $288 \div 24 = \underline{24}$

2 and 6 are factors of 24

$$288 \div 6 = 48$$

$$48 \div 2 = 24$$

5c $280 \div 40 = \underline{56}$

5 and 8 are factors of 40

$$280 \div 8 = 35$$

$$\underline{280} \div 5 = 57$$

d ✓

Page 12

1a

Divisible by 2
<u>432</u>
235
<u>628</u>
<u>900</u>
<u>12,562</u>

b

Divisible by 5
<u>350</u>
<u>75</u>
5,556
34,512
<u>17,890</u>

c

Divisible by 4
<u>3,432</u>
<u>5,208</u>
359
<u>6,256</u>
32,547

d

Divisible by 10
<u>4,560</u>
<u>83,210</u>
8,436
<u>187,490</u>
11,609

e

Divisible by 3
<u>36</u>
932
<u>3,561</u>
22,468
13,906

f

Divisible by 100
4
570
26,730
<u>459,800</u>
<u>934,600</u>

Series G – Multiplication and Division

Page 12

2 Answers will vary.

- a 4
- b 2, 0
- c 2
- d 8
- e 0
- f 0, 0
- g 8
- h 0, 0

Page 13

1a 55

- b 5.5
- c 0.55
- d 1,200
- e 120
- f 12
- g 12.6
- h 1.26
- i 0.126

2a 9

- b 11
- c 42
- d 200
- e 300
- f 60

3a $625 \div 5 = \underline{1,250} \div \underline{10} = \underline{125}$

b $275 \div 5 = \underline{550} \div \underline{10} = \underline{55}$

c $1,250 \div 5 = \underline{2,500} \div \underline{10} = \underline{250}$

d $450 \div 25 = \underline{1,800} \div \underline{10}$
 $= \underline{180} \div \underline{10} = \underline{18}$

e $850 \div 25 = \underline{3,400} \div \underline{10}$
 $= \underline{340} \div \underline{10} = \underline{34}$

Pages 14–19

1a e: 800

$$\begin{array}{r} 446 \\ \times \quad 2 \\ \hline 12 \quad (2 \times 6) \\ 80 \quad (2 \times 40) \\ + 800 \quad (2 \times 400) \\ \hline 892 \end{array}$$

b e: 4,900

$$\begin{array}{r} 753 \\ \times \quad 7 \\ \hline 21 \quad (7 \times 3) \\ 350 \quad (7 \times 50) \\ + 4900 \quad (7 \times 700) \\ \hline 5271 \end{array}$$

c e: 3,200

$$\begin{array}{r} 429 \\ \times \quad 8 \\ \hline 72 \quad (8 \times 9) \\ 160 \quad (8 \times 20) \\ + 3200 \quad (8 \times 400) \\ \hline 3432 \end{array}$$

d e: 24,000

$$\begin{array}{r} 3119 \\ \times \quad 8 \\ \hline 72 \quad (8 \times 9) \\ 80 \quad (8 \times 10) \\ 800 \quad (8 \times 100) \\ + 24000 \quad (8 \times 3,000) \\ \hline 24952 \end{array}$$

1e e: 35,000

$$\begin{array}{r} 5341 \\ \times \quad 7 \\ \hline 7 \quad (7 \times 1) \\ 280 \quad (7 \times 40) \\ 2100 \quad (7 \times 300) \\ + 35000 \quad (7 \times 5,000) \\ \hline 37387 \end{array}$$

f e: 16,000

$$\begin{array}{r} 3322 \\ \times \quad 5 \\ \hline 10 \quad (5 \times 2) \\ 100 \quad (5 \times 20) \\ 1500 \quad (5 \times 300) \\ + 15000 \quad (5 \times 3,000) \\ \hline 16610 \end{array}$$

2a 1 4 5

$$\begin{array}{r} 145 \\ \times \quad 8 \\ \hline 40 \quad (8 \times 5) \\ 320 \quad (8 \times 40) \\ + 800 \quad (8 \times 100) \\ \hline 1160 \end{array} \quad \text{£11.60}$$

b 1 1 6 0

$$\begin{array}{r} 1160 \\ \times \quad 5 \\ \hline 0 \quad (5 \times 0) \\ 300 \quad (5 \times 40) \\ 500 \quad (5 \times 100) \\ + 5000 \quad (5 \times 1,000) \\ \hline 5800 \end{array} \quad \text{£58}$$

3a e: 1,000

$$\begin{array}{r} 24 \\ \times \quad 43 \\ \hline \end{array}$$

Working out will vary depending on method used.

$$\begin{array}{r} 1032 \\ + \end{array}$$

Series G – Multiplication and Division

Pages 14–19

3b e: 4,200

			7	2
x			5	8
<hr/>				
+				
	4	1	7	6

Working out will vary depending on method used.

c e: 1,200

			3	5
x			3	6
<hr/>				
+				
	1	2	6	0

Working out will vary depending on method used.

d e: 3,500

			7	4
x			5	1
<hr/>				
+				
	3	7	7	4

Working out will vary depending on method used.

e e: 5,400

		2	3	9
x			2	3
<hr/>				
+				
	5	4	9	7

Working out will vary depending on method used.

3f e: 4,500

			3	2	7
x				1	4
<hr/>					
+					
	4	5	7	8	

Working out will vary depending on method used.

4a e: 2,100

			H	T	O
			7	2	1
x					3
<hr/>					
+					
	2	1	6	3	

b e: 5,600

			H	T	O
			8	1	2
x					7
<hr/>					
+					
	5	6	8	4	

c e: 2,200

		Th	H	T	O
			4	5	2
x					5
<hr/>					
+					
	2	2	6	0	

5a

		H	T	O
			4	4
x			1	2
<hr/>				
+				
			8	8
<hr/>				
+				
	4	4	0	
<hr/>				
+				
	5	2	8	

5b

	Th	H	T	O
			5	5
x			3	3
<hr/>				
+				
+	1			
<hr/>				
+				
	1	8	1	5

c

	Th	H	T	O
			9	9
x			5	2
<hr/>				
+				
+	4			
<hr/>				
+				
	5	1	4	8

d

	Th	H	T	O
			3	6
x			4	3
<hr/>				
+				
+	1			
<hr/>				
+				
	1	5	4	8

6a e: 15,000

	T	Th	H	T	O
			4	7	2
x				3	4
<hr/>					
+					
+					
+					
	1	6	0	4	8

Series G – Multiplication and Division

Pages 14–19

6b e: 21,000

	T Th	Th	H	T	O
			3	5	8
x				6	3
	1	0	7	4	
+	2	1	4	8	0
	2	2	5	5	4

c e: 75,000

	T Th	Th	H	T	O
			9	6	7
x				7	6
		5	8	0	2
+	6	7	6	9	0
	7	3	4	9	2

7a e: 35,000

	H Th	T Th	Th	H	T	O
			1	4	3	8
x					2	4
			5	7	5	2
+		2	8	7	6	0
		3	4	5	1	2

b e: 300,000

	H Th	T Th	Th	H	T	O
			3	6	0	9
x					8	1
			3	6	0	9
+	2	8	8	7	2	0
	2	9	2	3	2	9

7c e: 250,000

	H Th	T Th	Th	H	T	O
			4	5	2	7
x					5	6
		2	7	1	6	2
+	2	2	6	3	5	0
	2	5	3	5	1	2

d e: 560,000

	H Th	T Th	Th	H	T	O
			7	8	3	6
x					6	9
		7	0	5	2	4
+	4	7	0	1	6	0
	5	4	0	6	8	4

8a 702 ÷ 13 = 54

	0	5	4
13	7	0	2
	6	5	
		5	2
		5	2
			0

b 748 ÷ 22 = 34

	0	3	4
22	7	4	8
	6	6	
		8	8
		8	8
			0

8c 928 ÷ 16 = 58

	0	5	8
16	9	2	8
	8	0	
		1	2
		1	2
			0

d 899 ÷ 31 = 29

	0	2	9
31	8	9	9
	6	5	
		5	2
		5	2
			0

9a 1,403 ÷ 23 = 61

	0	0	6	1
23	1	4	0	3
	1	3	8	
		2	3	
		2	3	
			0	

b 1,071 ÷ 17 = 63

	0	0	6	3
17	1	0	7	1
	1	0	2	
		5	1	
		5	1	
			0	

Series G – Multiplication and Division

Page 20

$$\begin{array}{r} 2 \quad 8 \\ 13 \overline{) 364} \\ \underline{36} \\ 104 \\ \underline{104} \\ 0 \end{array}$$

$$\begin{array}{r} 1 \quad 3 \\ 22 \overline{) 286} \\ \underline{22} \\ 66 \\ \underline{66} \\ 0 \end{array}$$

$$\begin{array}{r} 2 \quad 2 \\ 31 \overline{) 682} \\ \underline{62} \\ 62 \\ \underline{62} \\ 0 \end{array}$$

$$\begin{array}{r} 1 \quad 6 \quad r8 \\ 26 \overline{) 424} \\ \underline{42} \\ 164 \\ \underline{164} \\ 0 \end{array}$$

$$\begin{array}{r} 3 \quad 1 \quad r3 \\ 16 \overline{) 499} \\ \underline{48} \\ 19 \\ \underline{16} \\ 39 \\ \underline{32} \\ 7 \end{array}$$

$$\begin{array}{r} 2 \quad 2 \quad r24 \\ 33 \overline{) 750} \\ \underline{66} \\ 90 \\ \underline{66} \\ 240 \\ \underline{240} \\ 0 \end{array}$$

$$\begin{array}{r} 7 \quad 3 \\ 15 \overline{) 1095} \\ \underline{10} \\ 95 \\ \underline{90} \\ 55 \\ \underline{45} \\ 105 \\ \underline{105} \\ 0 \end{array}$$

$$\begin{array}{r} 5 \quad 2 \\ 24 \overline{) 1248} \\ \underline{12} \\ 48 \\ \underline{48} \\ 0 \end{array}$$

$$\begin{array}{r} 1 \quad 3 \quad 0 \\ 45 \overline{) 5850} \\ \underline{58} \\ 1350 \\ \underline{135} \\ 0 \end{array}$$

$$\begin{array}{r} 2 \quad 1 \quad 3 \\ 14 \overline{) 2982} \\ \underline{28} \\ 182 \\ \underline{14} \\ 42 \\ \underline{42} \\ 0 \end{array}$$

$$\begin{array}{r} 3 \quad 3 \quad 3 \quad r4 \\ 12 \overline{) 4040} \\ \underline{40} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

$$\begin{array}{r} 2 \quad 5 \quad 1 \quad r7 \\ 32 \overline{) 8039} \\ \underline{80} \\ 39 \\ \underline{32} \\ 79 \\ \underline{79} \\ 0 \end{array}$$

Page 21

$$\begin{array}{r} 1 \quad 0 \quad r5 \\ 8 \overline{) 85} \\ \underline{8} \\ 5 \end{array}$$

$$\begin{array}{r} 9 \quad r2 \\ 5 \overline{) 47} \\ \underline{45} \\ 2 \end{array}$$

$$\begin{array}{r} 8 \quad r2 \\ 7 \overline{) 58} \\ \underline{56} \\ 2 \end{array}$$

$$\begin{array}{r} 1 \quad 2 \quad r3 \\ 5 \overline{) 63} \\ \underline{60} \\ 3 \end{array}$$

$$\begin{array}{r} 1 \quad 9 \quad r4 \\ 5 \overline{) 99} \\ \underline{90} \\ 9 \end{array}$$

$$\begin{array}{r} 1 \quad 0 \quad r0 \\ 6 \overline{) 60} \\ \underline{60} \\ 0 \end{array}$$

$$\begin{array}{r} 1 \quad 4 \quad 3 \\ 5 \overline{) 7215} \\ \underline{70} \\ 215 \\ \underline{20} \\ 15 \\ \underline{15} \\ 0 \end{array}$$

$$\begin{array}{r} 7 \quad 4 \quad r5 \\ 9 \overline{) 6741} \\ \underline{63} \\ 441 \\ \underline{45} \\ 1 \end{array}$$

$$\begin{array}{r} 1 \quad 0 \quad 1 \quad r5 \\ 6 \overline{) 611} \\ \underline{60} \\ 11 \\ \underline{6} \\ 5 \end{array}$$

$$\begin{array}{r} 1 \quad 1 \quad 6 \\ 8 \overline{) 924} \\ \underline{9} \\ 124 \\ \underline{12} \\ 48 \\ \underline{48} \\ 0 \end{array}$$

$$\begin{array}{r} 1 \quad 5 \quad 8 \quad r3 \\ 4 \overline{) 635} \\ \underline{60} \\ 35 \\ \underline{32} \\ 3 \end{array}$$

$$\begin{array}{r} 2 \quad 0 \quad 4 \quad r3 \\ 4 \overline{) 819} \\ \underline{80} \\ 19 \\ \underline{16} \\ 39 \\ \underline{36} \\ 3 \end{array}$$

3a Multiplication $250 \times 9 = 2,250$

$$\begin{array}{r} 2 \quad 5 \quad 0 \\ 3 \overline{) 750} \\ \underline{75} \\ 0 \end{array}$$

c Addition $121 + 145 = 266$

$$\begin{array}{r} 5 \quad 0 \\ 5 \overline{) 250} \\ \underline{25} \\ 0 \end{array}$$

Page 22

1	fraction	decimal	remainder
$244 \div 5$	$48\frac{4}{5}$	48.8	48 r 4
$245 \div 5$	49	49.0	49 r 0
$246 \div 5$	$49\frac{1}{5}$	49.2	49 r 1
$247 \div 5$	$49\frac{2}{5}$	49.4	49 r 2

2a $299 \div 10 = 29 \text{ r } 9$

I would put 29 in each bag and there would be 9 left over. I wouldn't bother cutting the chocolates into parts.

$$\begin{array}{r} 1 \quad \frac{1}{2} \\ 8 \overline{) 12} \\ \underline{8} \\ 4 \end{array}$$

I would show the remainder as a fraction because I am making a fraction of one thing.

$$\begin{array}{r} 1 \quad 6 \quad \frac{1}{2} \\ 4 \overline{) 626} \\ \underline{62} \\ 6 \end{array}$$

Because it is easy to work out half a minute.

$$\begin{array}{r} 1 \quad 3 \quad 7 \cdot 5 \quad 0 \\ 4 \overline{) 51530} \\ \underline{40} \\ 11530 \\ \underline{120} \\ 530 \\ \underline{520} \\ 10 \\ \underline{10} \\ 0 \end{array}$$

Because money is always expressed in decimals—we need to be exact.
= £137.50

Page 23

$$\begin{array}{r} 1 \quad 4 \quad 5 \\ 1a \quad \times 1 \quad 4 \\ \hline \end{array}$$

Working out will vary depending on method used.

$$\begin{array}{r} \pounds \quad 2 \quad 0 \quad 3 \quad 0 \\ \hline \end{array}$$

Series G – Multiplication and Division

Page 23

1b $(£65 \times 2) + £30 = £160$

$$\begin{array}{r} \text{£ } 40 \\ 4 \overline{) 160} \\ \underline{40} \\ 200 \\ \underline{200} \\ 0 \end{array}$$

c $2\frac{1}{2}$ hours = 150 minutes

$$\begin{array}{r} 50 \\ 3 \overline{) 150} \\ \underline{150} \\ 0 \end{array}$$

= 50 minutes

d

$$\begin{array}{r} 45 \\ \times 3 \\ \hline 135 \end{array} \quad \begin{array}{r} 135 \\ \times 7 \\ \hline 945 \text{ g} \end{array}$$

e

$$\begin{array}{r} 14.90 \\ \times 10 \\ \hline 149.00 \end{array}$$

$14.90 \div 10 = £1.49$ each

Page 24

What to do

31 tables

41 tables

54 packets

74 bottles

$$\begin{array}{r} 480 \\ 360 \\ 400 \\ + 150 \\ \hline 1390 \end{array}$$

$246 \times 6 = 1,476$

$1,476 - 1,390 = 86$

No. Need 86 more items.

What to do next

Answers will vary.

Page 25

What to do

Observe students.

What to do next

Observe students.

Page 26

What to do

15 cupcakes

5 family blocks of chocolate

25 packs of chips

10 packets of popcorn;

1 bag of candy? 1

12 cupcakes? 4

25 packs of chips? 5

14 packets of popcorn? 7

No. They can only get 2 blocks of chocolate and 6 cupcakes.

Answers will vary.

What to do next

Answers will vary.

Page 27

What to do

Sum of factors = sum of numbers

Sum of factors is greater than the number itself.

Sum of factors is smaller than the number itself.

What to do next

Teacher check.

Page 28

What to do

USA

£500 USD;

€120;

€200

MEXICO

€30; 136 pesos

CHINA

4 day = 210 yuan RMB per day

INDIA

€2100

AUSTRALIA

€500; €245; €325

Page 29

What to do

- Work out how many corks are represented by 30 points:
"That's 3 lots of 10 points and 10 points = 100 corks so $3 \times 100 = 300$ corks."
- Work out the difference between 50 points and 30 points:
"We subtract when we find the difference. $50 - 30 = 20$ points"
- Calculate what 20 points represents:
"That's 2 lots of 10 points and 10 points = 100 corks so $2 \times 100 = 200$ corks"
- State the answer:
"They need 200 more corks."



Multiplication facts

Name _____

- 1 Using a lead pencil complete the multiplication facts. Once the grid has been checked, colour all the correct facts. How many do you know? How many do you have left to learn?

×	4	2	3	7	6	12	5	10	11	1	9	8
2												
4												
8												
3												
6												
9												
12												
5												
10												
7												
11												
1												
0												

Multiplication facts	Not yet	Kind of	Got it
• 2 ×			
• 4 ×			
• 8 ×			
• 3 ×			
• 6 ×			
• 9 ×			
• 12 ×			

Multiplication facts	Not yet	Kind of	Got it
• 5 ×			
• 10 ×			
• 7 ×			
• 11 ×			
• 1 ×			
• 0 ×			

1 Complete these lists:

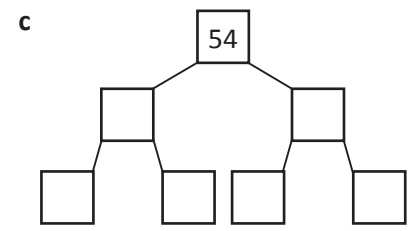
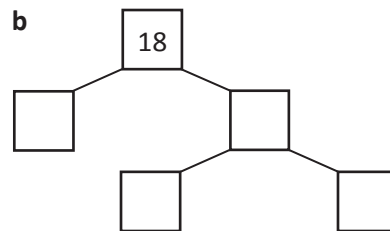
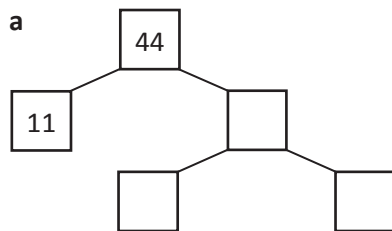
a List all the factors of the following numbers:

36	
48	
72	
32	

b List the next 5 multiples of:

8	8,
7	7,
6	6,
12	12,

2 Complete the factor trees:



3 Multiply these numbers:

a $10 \times 773 =$

b $100 \times 112 =$

c $1,000 \times 27 =$

d $10 \times 92.3 =$

e $1,000 \times 4.8 =$

f $100 \times 6.07 =$

4 Solve these problems. Think about what process is required for each step.

a Sarah ate 5.5 pies in a pie eating contest. Jack bet he could eat 10 times that much. How many did he think he could eat?

b Jack ate 9 pies before collapsing. How many pies short of his goal was he?

c He had to do 100 sit ups for each pie he said he would eat but didn't. How many sit ups must he do?

Skills	Not yet	Kind of	Got it
• Lists factors of numbers to 100			
• Lists multiples of numbers			
• Multiplies whole numbers by tens, hundreds, thousands			
• Multiplies decimal numbers by tens, hundreds, thousands			
• Identifies correct process for each step in multi-step problems			

Mental multiplication strategies

Name _____

5 Circle the prime numbers:

5 9 13 19 21 27 29 34 39 41 43 47 49

6 Show how you would:

a Use repeat doubling to solve 8×13 .

b Use double and halve to solve 25×18 .

c Use the split strategy to solve 134×7 .

d Use compensation to solve 79×7 .

7 Use a mental strategy of your choice to solve these problems. Show how you arrived at your answers.

a 49×12

b 156×7

c 9 friends each spend £48. How much money have they spent altogether?

d 1 kg of sweets costs £6. What is the cost of 33 kg of sweets?

Skills	Not yet	Kind of	Got it
• Identifies prime numbers under 50			
• Recognises and uses a range of mental multiplication strategies doubling <input type="checkbox"/> double and halve <input type="checkbox"/> split <input type="checkbox"/> compensation <input type="checkbox"/>			
• Solves multiplication problems using mental strategy of choice			
• Applies strategies to solve real life/word problems			

1 Solve these division problems. Decide how you will handle the remainders.

a $72 \div 6 =$

b $54 \div 9 =$

c $39 \div 3 =$

d $84 \div 7 =$

e $72 \div 8 =$

f $125 \div 5 =$

g $55 \div 6 =$

h $27 \div 7 =$

i $92 \div 10 =$

2 What number is:

a 100 times smaller than 6,000? =

b 1,000 times smaller than 124,000? =

c 10 times smaller than 56? =

d 100 times smaller than 16? =

e 30 times smaller than 240? =

f 200 times smaller than 4,000? =

3 Solve these division problems. Show how you arrive at your answers:

a The local pet shelter currently has 220 puppies and 180 cats. They can put 10 puppies together in an enclosure and 5 cats in an enclosure. How many enclosures will they need for all the puppies? How many for the cats?

b 64,000 people are in a sold-out stadium for a football match. The stadium is divided into 200 sections. How many people in each section?

c £670 is shared evenly between 1,000 people. What is each person's share?

Skills	Not yet	Kind of	Got it
• Uses known multiplication facts to answer simple division problems			
• Divides by tens, hundreds, thousands			
• Divides by multiples of tens and hundreds			

Mental division strategies

Name _____

4 Show how you would:

a Solve $168 \div 8$ using the split strategy:

b Solve $288 \div 12$ by finding factors:

5 Use a strategy of your choice to solve these division problems. Show how you arrive at your answers.

a 156 cakes must be shared evenly between 8 people. How many cakes does each person receive?

b $540 \div 18$

c Your mother won £4,800 on the TV game show, 'Spin that Wheel!'. She will split the prize as follows: She will take half. Half of the remainder will go to your dad. The other half of the remainder is to be shared evenly between you and your 2 sisters. How much money will each person receive?

Skills	Not yet	Kind of	Got it
• Recognises and uses a range of mental division strategies factors <input type="checkbox"/> split <input type="checkbox"/> other <input type="checkbox"/>			
• Solves division problems using strategy of choice			

1 Solve these problems using long multiplication:

a e:

		5	3	
x		2	4	
+				

b e:

		6	7	
x		3	5	
+				

c e:

		8	6	
x		5	7	
+				

2 Solve these problems using short multiplication:

a e:

	T Th	Th	H	T	O
x			3	9	3
+					

b e:

	T Th	Th	H	T	O
x			4	6	7
+					

c e:

	H Th	T Th	Th	H	T	O
x			1	5	2	7
+						

d e:

	H Th	T Th	Th	H	T	O
x			4	7	1	8
+						

Skills	Not yet	Kind of	Got it
• Solves problems using long multiplication			
• Solves problems using short multiplication			

Written methods

Name _____

3 Solve these problems using long division:

a $702 \div 13 =$

b $748 \div 22 =$

c $1,403 \div 23 =$

d $1,071 \div 17 =$

4 Solve these problems using short division:

a $13 \overline{) 364}$

b $22 \overline{) 286}$

c $31 \overline{) 682}$

d $24 \overline{) 1248}$

e $16 \overline{) 3434}$

Skills	Not yet	Kind of	Got it
• Solves problems using long division			
• Solves problems using short division			

Series G – Multiplication and Division – Student Progress Record

Name _____ Class _____ Date _____

What went well: _____

What I need to improve: _____



Series G – Multiplication and Division – Student Progress Record

Name _____ Class _____ Date _____

What went well: _____

What I need to improve: _____

Series G – Multiplication and Division

ASSESSMENT ANSWERS

Page 1

1	×	4	2	3	7	6	12	5	10	11	1	9	8
	2	8	4	6	14	12	24	10	20	22	2	18	16
	4	16	8	12	28	24	48	20	40	44	4	36	32
	8	32	16	24	56	48	96	40	80	88	8	72	64
	3	12	6	9	21	18	36	15	30	33	3	27	24
	6	24	12	18	42	36	72	30	60	66	6	54	48
	9	36	18	27	63	54	108	45	90	99	9	81	72
	12	48	24	36	84	72	144	60	120	132	12	108	96
	5	20	10	15	35	30	60	25	50	55	5	45	40
	10	40	20	30	70	60	120	50	100	110	10	90	80
	7	28	14	21	49	42	84	35	70	77	7	63	56
	11	44	22	33	77	66	132	55	110	121	11	99	88
	1	4	2	3	7	6	12	5	10	11	1	9	8
	0	0	0	0	0	0	0	0	0	0	0	0	0

6a $13 \times 2 = 26$

$26 \times 2 = 52$

$52 \times 2 = 104$

b $50 \times 9 = 450$

c $(100 \times 7) + (30 \times 7) + (4 \times 7)$
or

$(130 \times 7) + (4 \times 7)$
 $910 + 28 = 938$

d $80 \times 7 = 560$

$560 - 7 = 553$

7a $50 \times 12 = 600$

$600 - 12 = 588$

b $(100 \times 7) + (50 \times 7) + (6 \times 7)$
or

$(150 \times 7) + (6 \times 7)$
 $1,050 + 42 = 1,092$

c
$$\begin{array}{r} 48 \\ \times 9 \\ \hline \end{array}$$

Method will vary.

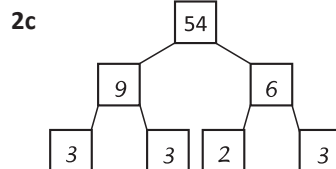
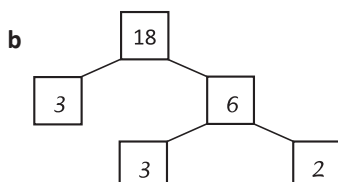
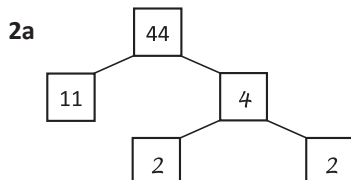
d
$$\begin{array}{r} 33 \\ \times 6 \\ \hline \end{array}$$

Method will vary.

Pages 2–3

1a	36	1, 36, 2, 18, 3, 12, 4, 9, 6
	48	1, 48, 2, 24, 3, 16, 4, 12, 6, 8
	72	1, 72, 2, 36, 3, 24, 4, 18, 6, 12, 8, 9
	32	1, 32, 2, 16, 4, 8

b	8	8, 16, 24, 32, 40, 48
	7	7, 14, 21, 28, 35, 42
	6	6, 12, 18, 24, 30, 36
	12	12, 24, 36, 48, 60, 72



3a 7,730

b 11,200

c 27,000

d 923

e 4,800

f 607

4a 55

b 46

c 4,600

5 (5) 9 (13) (19) 21 27 (29) 34 39 (41) (43) (47) 49

Pages 4–5

1a 12

b 6

c 13

d 12

e 9

f 25

g 9 r 1 or $9\frac{1}{6}$

h 3 r 6 or $3\frac{6}{7}$

i 9 r 2 or 9.2 or $9\frac{1}{5}$ or $9\frac{2}{10}$

Series G – Multiplication and Division

Pages 4–5

2a 60

b 124

c 5.6

d 0.16

e 8

f 20

3a $220 \div 10 = 22$
22 puppy enclosures.

$180 \div 5 = 36$
36 cat enclosures.

b $64,000 \div 100$
 $= 640 \div 2$
 $= 320$

c $£670 \div 1,000 = .67$
or £0.67
or 67p

4a $168 \div 8$

160	8	8	
20	+	1	= 21

b $288 \div 2 = 144$
 $144 \div 6 = 24$
 $288 \div 12 = 24$

5a $8 \overline{) 156} = 19 \frac{4}{8}$

$= 19 \frac{1}{2}$

b $540 \div 9 = 60$
 $60 \div 2 = 30$
 $540 \div 18 = 30$

or

$540 \div 18$
 $= 270 \div 9$
 $= 30$

c $£4,800 \div 2 = £2,400$ (mother)
 $£2,400 \div 2 = £1,200$ (dad)
 $£1,200 \div 3 = £400$ (siblings)

Pages 6–7

1a e: 1,250

			5	3
x			2	4
			1	2
		2	0	0
			6	0
+	1	0	0	0
	1	2	7	2

b e: 2,100

			6	7	
x			3	5	
			3	5	
		3	0	0	
			2	1	0
+	1	8	0	0	
	2	3	4	5	

c e: 5,000

			8	6	
x			5	7	
			4	2	
		5	6	0	
			3	0	0
+	4	0	0	0	
	4	9	0	2	

2a e: 8,000

	T Th	Th	H	T	O
			3	9	3
x				2	3
		1	2	7	9
+		7	8	6	0
		9	0	3	9

b e: 35,000

	T Th	Th	H	T	O
			4	6	7
x				7	4
		1	2	6	8
+	3	2	4	9	0
	3	4	5	5	8

2c e: 60,000

	H Th	T Th	Th	H	T	O	
			1	5	2	7	
x					3	6	
			3	9	1	6	2
+		4	5	8	1	0	
		5	4	9	7	2	

d e: 329,000

	H Th	T Th	Th	H	T	O
			4	7	1	8
x					7	2
			9	4	3	6
+	3	3	0	2	6	0
	3	3	9	6	9	6

3a $702 \div 13 = 54$

	0	5	4	
13	7	0	2	
	6	5		(13 × 50)
		5	2	
		5	2	(13 × 4)
			0	

b $748 \div 22 = 34$

	0	3	4	
22	7	4	8	
	6	6		(22 × 30)
		8	8	
		8	8	(22 × 4)
			0	

c $1,403 \div 23 = 61$

	0	0	6	1	
23	1	4	0	3	
	1	3	8		(23 × 60)
			2	3	
			2	3	(23 × 1)
				0	

Series G – Multiplication and Division

Pages 6–7

3d $1,071 \div 17 = \boxed{63}$

$$\begin{array}{r}
 0 \quad 0 \quad 6 \quad 3 \\
 17 \overline{) 1 \quad 0 \quad 7 \quad 1} \\
 \underline{1 \quad 0 \quad 2} \quad (17 \times 60) \\
 5 \quad 1 \\
 \underline{5 \quad 1} \quad (17 \times 3) \\
 0
 \end{array}$$

4a $13 \overline{) 364}$

$$\begin{array}{r}
 2 \quad 8 \\
 13 \overline{) 364} \\
 \underline{26} \quad 10 \\
 104 \\
 \underline{104} \\
 0
 \end{array}$$

b $22 \overline{) 286}$

$$\begin{array}{r}
 1 \quad 3 \\
 22 \overline{) 286} \\
 \underline{22} \quad 6 \\
 66 \\
 \underline{66} \\
 0
 \end{array}$$

c $31 \overline{) 682}$

$$\begin{array}{r}
 2 \quad 2 \\
 31 \overline{) 682} \\
 \underline{62} \quad 6 \\
 62 \\
 \underline{62} \\
 0
 \end{array}$$

d $24 \overline{) 1248}$

$$\begin{array}{r}
 5 \quad 2 \\
 24 \overline{) 1248} \\
 \underline{120} \quad 4 \\
 48 \\
 \underline{48} \\
 0
 \end{array}$$

e $16 \overline{) 3434}$

$$\begin{array}{r}
 2 \quad 1 \quad 4 \quad r10 \\
 16 \overline{) 3434} \\
 \underline{32} \quad 23 \\
 234 \\
 \underline{224} \quad 7 \\
 74 \\
 \underline{72} \\
 24 \\
 \underline{24} \\
 0
 \end{array}$$

Series G – Multiplication and Division

Topic	Reference	Strand	Substrand	Objective
Multiplication Facts	6C5	Number	Calculation	Identify common factors, common multiples and prime numbers.
Mental Strategies	6C6	Number	Calculation	Perform mental calculations, including with mixed operations and large numbers.
Written Methods	6C7a	Number	Calculation	Multiply multi-digit numbers up to 4 digits by a 2-digit whole number using the formal written method of long multiplication.
Written Methods	6C7b	Number	Calculation	Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, decimals or by rounding as appropriate for the context.
Written Methods	6C7c	Number	Calculation	Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of short division where appropriate, interpreting remainders according to the context.
Puzzles and Investigations	6C8	Number	Calculation	Solve problems involving addition, subtraction, multiplication and division.