

Mathletics

Series



Teacher



$6 \times 7 = 42$ $6 \times 7 = 42$

$6 \times 7 = 42$ $6 \times 7 = 42$

$6 \times 7 = 42$ $6 \times 7 = 42$

Multiplication and Division



Series E – Multiplication and Division

Contents

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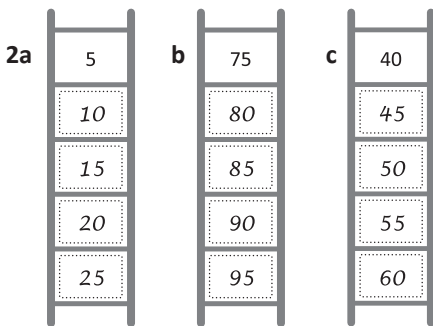
Series Author:

Nicola Herringer

Series E – Multiplication and Division

Pages 1–2

- 1 5; 10; 15; 20; 25; 30; 35; 40; 45; 50; 55; 60



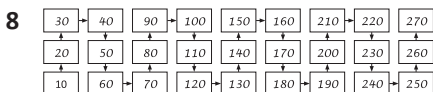
- 3a 5
b 9
c 6
d 10
e 7
f 8

- 4a 40
b 15
c 50
d 20

- 5 10; 20; 30; 40; 50; 60; 70; 80; 90; 100; 110; 120

- 6 7; 25; 6; 9; 3; 2; 4

- 7 3; 50; 2; 90; 6; 7; 100



9

x	2	11	1	4	5	9	12	6	8	7	10	3
5	10	55	5	20	25	45	60	30	40	35	50	15
10	20	110	10	40	50	90	120	60	80	70	100	30

The $\times 10$ row is double the $\times 5$ row.

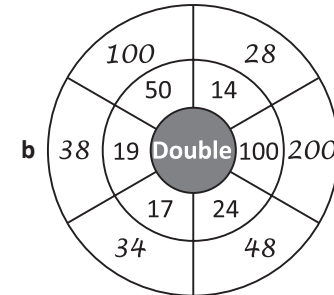
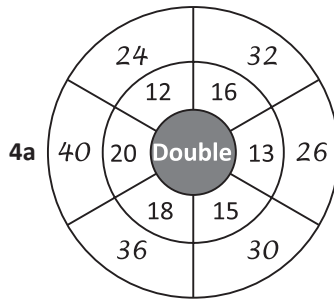
Pages 3–4

- 1 6; 8; 10; 12; 14; 16; 18; 20

- 2 2; 4; 6; 8; 10; 12; 14; 16; 18; 20; 22; 24

24; 14; 20; 12; 16; 2; 18; 8; 6; 4; 10; 22

- 3 26; 28; 30; 32; 34; 36; 38; 40



- 5 2; 4; 6; 8; 10; 12; 14; 16; 18; 20; 22; 24

4; 8; 12; 16; 20; 24; 28; 32; 36; 40; 44; 48

- 6 2; 4; 10; 6; 3; 9; 5; 7

7a $8 \times 4 = 32$

b $6 \times 4 = 24$

c $9 \times 4 = 36$

8

4	3	12	4	8	32
4	1	3	2	7	1
16	5	3	8	2	9
3	4	6	24	14	4
2	8	16	7	9	36
9	2	18	10	2	20

Page 5

- 1 4; 8; 12; 16; 20; 24; 28; 32; 36; 40; 44; 48

8; 16; 24; 32; 40; 48; 56; 64; 72; 80; 88; 96

- 2a 48

- b 32

- c 72

- 3 $16 \times 2 = 32$

$32 \times 2 = 64$

$64 \times 2 = 128$

Pages 6–7

- 1 3; 6; 9; 12; 15; 18; 21; 24; 27; 30; 6; 12; 18; 24; 30; 36; 42; 48; 54; 60

- 2 18; 12; 24; 54; 24; 15; 48; 27; 30

- 3a 9

- b 3

- c 6

- d 6

- e 8

- f 10

- g 3

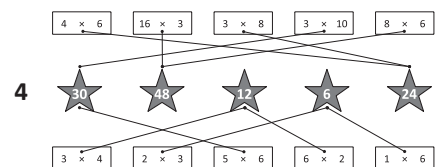
- h 7

- i 6

- j 6

- k 8

- l 3



5

	1	4		2	7	
3	1	8				4
			5		6	3
7	2		4		6	
8	4	2		9	1	10
				8		1

- 6 24

Page 8

1a $2 \times 5 = 10 + 2 \rightarrow 2 \times 6 = 12$

b $4 \times 5 = 20 + 4 \rightarrow 4 \times 6 = 24$

Series E – Multiplication and Division

Page 8

	× 5	Number to add	× 6
2b	$2 \times 5 = 10$	2	$2 \times 6 = 12$
c	$7 \times 5 = 35$	7	$7 \times 6 = 42$
d	$4 \times 5 = 20$	4	$4 \times 6 = 24$
e	$6 \times 5 = 30$	6	$6 \times 6 = 36$
f	$9 \times 5 = 45$	9	$9 \times 6 = 54$

Pages 9–10

1 7; 14; 21; 28; 35; 42; 49; 56; 63; 70; 77; 84

2a 9

b 6

c 3

d 4

e 10

f 2

g 8

3a 28

b 49

c 14

d 35

e 63

f 21

4a $8 \times 7 = 56$

b $3 \times 7 = 21$

c $7 \times 5 = 35$

5

× 8 table	Number to subtract	× 7 table
$1 \times 8 = 8$	1	$1 \times 7 = 7$
$2 \times 8 = 16$	2	$2 \times 7 = 14$
$3 \times 8 = 24$	3	$3 \times 7 = 21$
$4 \times 8 = 32$	4	$4 \times 7 = 28$
$5 \times 8 = 40$	5	$5 \times 7 = 35$
$6 \times 8 = 48$	6	$6 \times 7 = 42$
$7 \times 8 = 56$	7	$7 \times 7 = 49$
$8 \times 8 = 64$	8	$8 \times 7 = 56$
$9 \times 8 = 72$	9	$9 \times 7 = 63$
$10 \times 8 = 80$	10	$10 \times 7 = 70$
$11 \times 8 = 88$	11	$11 \times 7 = 77$
$12 \times 8 = 96$	12	$12 \times 7 = 84$

6a 4

b 5

c 3

d 6

6e 7

f 2

7

×	11	4	2	6	1	12	9	5	3	7	8
8	88	32	16	48	8	96	72	40	24	56	64
7	77	28	14	42	7	84	63	35	21	49	56

Pages 11–12

1 9; 18; 27; 36; 45; 54; 63; 72; 81; 90; 99; 108

2a 27

b 36

c 54

d 18

e 45

f 9

3a £54

b £24

c £9

d £45

e £18

f £21

4

× 10 table	Number to subtract	× 9 table
$1 \times 10 = 10$	1	$1 \times 9 = 9$
$2 \times 10 = 20$	2	$2 \times 9 = 18$
$3 \times 10 = 30$	3	$3 \times 9 = 27$
$4 \times 10 = 40$	4	$4 \times 9 = 36$
$5 \times 10 = 50$	5	$5 \times 9 = 45$
$6 \times 10 = 60$	6	$6 \times 9 = 54$
$7 \times 10 = 70$	7	$7 \times 9 = 63$
$8 \times 10 = 80$	8	$8 \times 9 = 72$
$9 \times 10 = 90$	9	$9 \times 9 = 81$
$10 \times 10 = 100$	10	$10 \times 9 = 90$
$11 \times 10 = 110$	11	$11 \times 9 = 99$
$12 \times 10 = 120$	12	$12 \times 9 = 108$

5 18; 54; 36; 72; 108; 27; 81; 90; 45; 63; 99

Page 13

1 11; 22; 33; 44; 55; 66; 77; 88; 99; 110; 121; 132

2a 33

b 55

c 77

d 44

e 99

f 88

3a $11 \times 10 = 110$

b $6 \times 11 = 66$

c $3 \times 11 = 33$

Page 14

1 12; 24; 36; 48; 60; 72; 84; 96; 108; 120; 132; 144

2a 36

b 60

c 84

d 48

e 36

f 108

3a $3 \times 12 = 36$

b $12 \times 6 = 72$

c $5 \times 12 = 60$

Pages 15–16

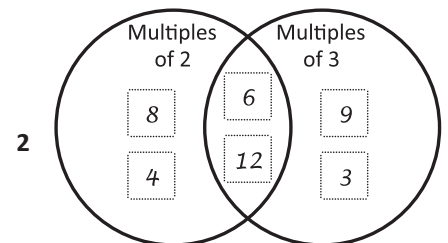
1a 12, 18, 24, 30, 36, 42, 48, 54, 60, 72, 84

b 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24

c 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120

d 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36

e 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48



3 Sample answers:

18, 24, 30, 36, 42, 48, 54, 60

4a $1 \times 12 = 12$

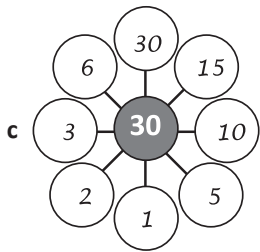
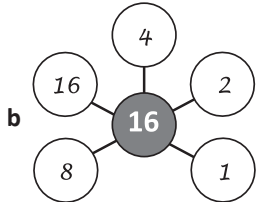
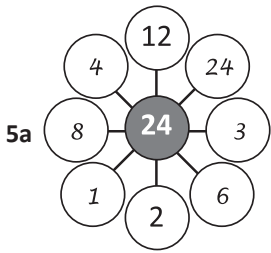
b $2 \times 6 = 12$

c $3 \times 4 = 12$

d 1, 12, 2, 6, 3 and 4

Series E – Multiplication and Division

Pages 15–16



Pages 17–18

1a

Th	H	T	O
		1	5
		1	5
1	5	0	0

×
10
100

b

Th	H	T	O
		4	8
	4	8	0
4	8	0	0

×
10
100

c

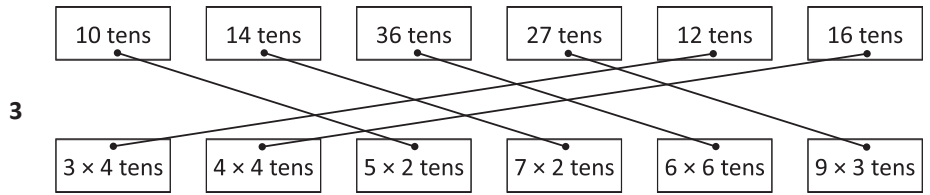
Th	H	T	O
		7	2
	7	2	0
7	2	0	0

×
10
100

2a 14; 140; 1400

b 25; 250; 2500

c 82; 820; 8200



4a 100

b 360

c 120

d 150

e 220

f 80

g 190

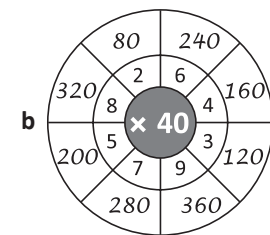
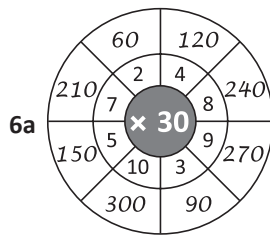
h 160

i 180

5a 24; 240

b 18; 180

c 14; 140



Page 19

1a 6

b 9

c 0

d 0

e 73

f 43

g 848

h 0

i 424

j 999

1k 0

l 2344

m impossible

Page 20

1a 32

b 150

c 42

d 120

e 36

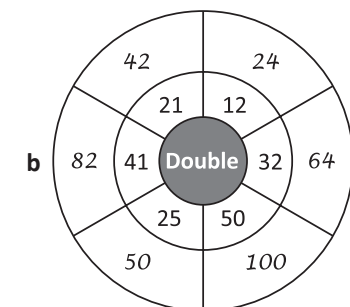
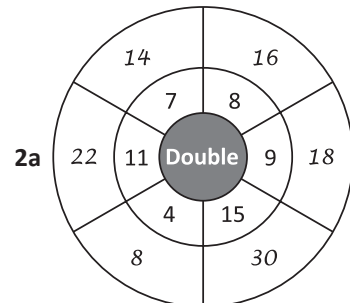
f 800

2a, b Answers will vary.

Pages 21–22

1a 48; 60; 90; 36

b 96; 120; 180; 200



3b 60; 30; 60

c 72, 36; 72

d 88; 44; 88

e 128, 32, 64, 128

f 280, 70, 140, 280

Series E – Multiplication and Division

Pages 21–22

3g Sample answer:

	$14 \times 8 = 112$	
Double 14 once		28
Double 14 twice		56
Double 14 three times		112

Page 23

1a $34 \times 3 \rightarrow 30 \times 3 + 4 \times 3$
 $90 + 12 = 102$
 So, $34 \times 3 = 102$

b $45 \times 5 \rightarrow 40 \times 5 + 5 \times 5$
 $200 + 25 = 225$
 So, $45 \times 5 = 225$

c $52 \times 4 \rightarrow 50 \times 4 + 2 \times 4$
 $200 + 8 = 208$
 So, $52 \times 4 = 208$

Page 24

1a $5 \times 29 \rightarrow 5 \times 30 = 150 - 5$
 So, $5 \times 29 = 145$

b $3 \times 49 \rightarrow 3 \times 50 = 150 - 3$
 So, $3 \times 49 = 147$

c $4 \times 39 \rightarrow 4 \times 40 = 160 - 4$
 So, $4 \times 39 = 156$

2a $4 \times 18 \rightarrow 4 \times 20 = 80 - 8$
 So, $4 \times 18 = 72$

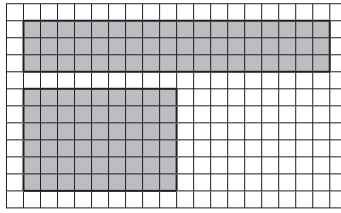
b $3 \times 17 \rightarrow 3 \times 20 = 60 - 9$
 So, $3 \times 17 = 51$

Page 25

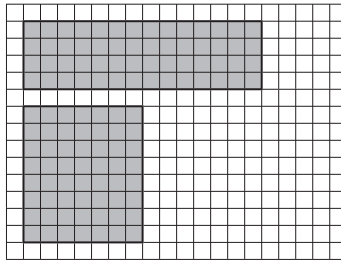
1a–d Answers will vary.

Pages 26–27

1a $9 \times 6 = 54$;



b $7 \times 8 = 56$;



2a $7 \times 6 = 42$

b $24 \times 10 = 240$

c $8 \times 10 = 80$

d $32 \times 10 = 320$

3a $8 \times 56 = ?$

$$\begin{array}{r} 8 \times 56 = ? \\ \downarrow \quad \downarrow \\ 4 \times 112 \\ \downarrow \quad \downarrow \\ 2 \times 224 \\ \downarrow \quad \downarrow \\ 1 \times 448 \\ \text{So, } 8 \times 56 = 448 \end{array}$$

b $8 \times 35 = ?$

$$\begin{array}{r} 8 \times 35 = ? \\ \downarrow \quad \downarrow \\ 4 \times 70 \\ \downarrow \quad \downarrow \\ 2 \times 140 \\ \downarrow \quad \downarrow \\ 1 \times 280 \\ \text{So, } 8 \times 35 = 280 \end{array}$$

3c $8 \times 45 = ?$

$$\begin{array}{r} 8 \times 45 = ? \\ \downarrow \quad \downarrow \\ 4 \times 90 \\ \downarrow \quad \downarrow \\ 2 \times 180 \\ \downarrow \quad \downarrow \\ 1 \times 360 \\ \text{So, } 8 \times 45 = 360 \end{array}$$

d You eventually get to $\times 1$ which is the answer.

Pages 28–29

1 24

2 60

3 72

4 120

5 168

6 270

Pages 30–31

1a $9 \div 3 = 3$

b $10 \div 2 = 5$

c $24 \div 6 = 4$

2a Drawings will vary;

$$16 \div 4 = 4;$$

sharing

b Drawings will vary.

$$24 \div 6 = 4$$

grouping

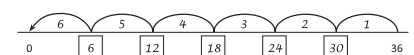
c Drawings will vary.

$$48 \div 6 = 8$$

sharing

Page 32

1a 6



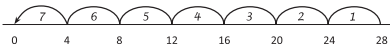
b 7



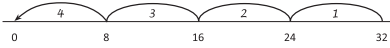
Series E – Multiplication and Division

Page 32

2a $28 \div 4 = 7$



b $32 \div 8 = 4$



Pages 33–34

1a $3 \times 4 = 12$

$4 \times 3 = 12$

$12 \div 4 = 3$

$12 \div 3 = 4$

b $5 \times 3 = 15$

$3 \times 5 = 15$

$15 \div 3 = 5$

$15 \div 5 = 3$

c $7 \times 4 = 28$

$4 \times 7 = 28$

$28 \div 4 = 7$

$28 \div 7 = 4$

d $9 \times 4 = 36$

$4 \times 9 = 36$

$36 \div 4 = 9$

$36 \div 9 = 4$

2

$6 \times 3 = 18$

$3 \times 6 = 18$

$18 \div 3 = 6$

$18 \div 6 = 3$

3b

$3 \times 9 = 27$

$9 \times 3 = 27$

$27 \div 3 = 9$

$27 \div 9 = 3$

c

$8 \times 6 = 48$

$6 \times 8 = 48$

$48 \div 8 = 6$

$48 \div 6 = 8$

d

$5 \times 8 = 40$

$8 \times 5 = 40$

$40 \div 5 = 8$

$40 \div 8 = 5$

4a $5 \times 5 = 25$ $25 \div 5 = 5$

b $9 \times 5 = 45$ $45 \div 9 = 5$

Page 35

1a

Th	H	T	O
5	3	0	0
	5	3	0
		5	3

$\div 10$

$\div 100$

b

Th	H	T	O
4	1	0	0
	4	1	0
		4	1

$\div 10$

$\div 100$

c

Th	H	T	O
8	4	0	0
	8	4	0
		8	4

$\div 10$

$\div 100$

d

Th	H	T	O
2	4	0	0
	2	4	0
		2	4

$\div 10$

$\div 100$

2a 1400; 140; 14

b 5600; 560; 56

c 3500; 350; 35

3a 2.7

b 4.9

Pages 36–37

1a OUT: 40; 70; 10

b OUT: 35; 12; 18

c OUT: 21; 45; 30

d OUT: 9; 25; 50

2 OUT: 25; 9; 15

3a 20; 40; 20

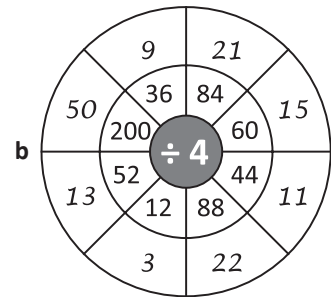
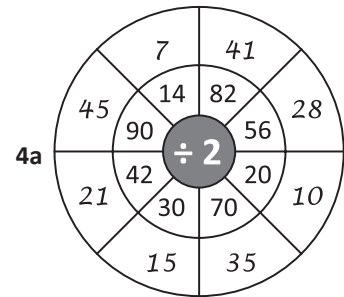
b 12; 24; 12

c 16; 32; 16

3d 30; 60; 30

e 61; 122; 61

f 22; 44; 22



Page 38

1a $115 \div 5$

$100 \div 5 = 20$

$15 \div 5 = 3$

$20 + 3 = 23$

b $135 \div 5$

$100 \div 5 = 20$

$35 \div 5 = 7$

$20 + 7 = 27$

2a $64 \div 4$

$60 \div 4 = 15$

$4 \div 4 = 1$

$15 + 1 = 16$

b $116 \div 4$

$100 \div 4 = 25$

$16 \div 4 = 4$

$25 + 4 = 29$

Series E – Multiplication and Division

Page 38

3a $330 \div 3$

300	30
-----	----

$\div 3$ $\div 3$

100	+	10	=	110
-----	---	----	---	-----

b $612 \div 3$

600	12
-----	----

$\div 3$ $\div 3$

200	+	4	=	204
-----	---	---	---	-----

Pages 39–41

1b 16;

Halve once = 32
Halve twice = 16

c 104;

312 is $300 + 12$
 $300 \div 3 = 100$ and $12 \div 3 = 4$
 $100 + 4 = 104$

d 35;

Halve once = 70
Halve twice = 35

2 $68 \div 4 = \boxed{17} \boxed{s}$ $90 \div 6 = \boxed{15} \boxed{p}$
 $135 \div 5 = \boxed{27} \boxed{e}$ $1,200 \div 10 = \boxed{120} \boxed{f}$
 $240 \div 4 = \boxed{60} \boxed{o}$ $128 \div 4 = \boxed{32} \boxed{t}$

f	o	o	t	s	t	e	p	s
120	60	60	32	17	32	27	15	17

3 11

4 6

5 8

6 320

7 31

8 24

Pages 42–43

1a

	H	T	O
		4	2
\times			9
	3	7	8
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b

	H	T	O
		3	8
\times			7
	2	6	6
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c

	H	T	O
		2	5
\times			4
	1	0	0
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d

	H	T	O
		2	6
\times			4
	1	0	4
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e

	H	T	O
		5	5
\times			8
	4	4	0
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

f

	H	T	O
		6	2
\times			7
	4	3	4
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

g

	H	T	O
		8	6
\times			6
	5	1	6
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1h

	H	T	O
		9	3
\times			5
	4	6	5
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

i

	H	T	O
		7	7
\times			9
	6	9	3
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2a

	Th	H	T	O
		1	2	3
\times				4
		4	9	2
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b

	Th	H	T	O
		2	5	6
\times				6
	1	5	3	6
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

c

	Th	H	T	O
		1	8	7
\times				8
	1	4	9	6
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

d

	Th	H	T	O
		3	4	2
\times				7
	2	3	9	4
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

e

	Th	H	T	O
		4	6	5
\times				5
	2	3	2	5
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Series E – Multiplication and Division

Pages 42–43

2f

Th	H	T	O
	6	7	8
x			9
	6	1	0
	6	7	7

3a

H	T	O
	2	5
x		6
	1	5
		3

b

H	T	O
	1	4
x		9
	1	2
		3

Page 44

- 1a 7
b 7
c 2
d 9
e 7
f 4
g 5
h 7
i 6

2a

7	4	2
6		

b

6	5	4
6		

c

9	7	2
9		

Pages 45–46

1a 368 is $300 + 60 + 8$

b 445 is $400 + 40 + 5$

c 567 is $500 + 60 + 7$

d 235 is $200 + 30 + 5$

2a 578

b 794

c 246

d 855

3a 211

b 231

c 421

d 244

4a

4	4	8	4
	1	2	1

b

3	9	3	6
	1	2	

5a

4	2	0	3
	8	1	2

b

3	9	2	4
	3	0	8

c

3	9	1	2
	3	0	4

d

4	2	0	6
	8	2	4

6a

3	9	1	8
	3	0	6

b

6	1	0	2
	1	0	2

6c

4	2	0	8
	8	3	2

d

4	2	0	4
	8	1	6

Pages 47–48

1a

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

b

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

c

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

d

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

e Multiples of 6 are all also multiples of 3. When you count in 3s every other multiple of 3 is also a multiple of 6 because $2 \times 3 = 6$

Series E – Multiplication and Division

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What to do

$$\diamond \times \diamond = \star \quad \boxed{2} \times \boxed{2} = \boxed{4}$$

$$\diamond \times \diamond \times \diamond = \star \quad \boxed{2} \times \boxed{2} \times \boxed{2} = \boxed{8}$$

$$\diamond \times \star = \star \quad \boxed{2} \times \boxed{4} = \boxed{8}$$

$$\nabla \times \star = \bullet \quad \boxed{3} \times \boxed{4} = \boxed{12}$$

$$\nabla \times \nabla = \star \quad \boxed{3} \times \boxed{3} = \boxed{9}$$

$$\nabla \times \diamond = \square \quad \boxed{3} \times \boxed{2} = \boxed{6}$$

$$\square \times \diamond = \bullet \quad \boxed{6} \times \boxed{2} = \boxed{12}$$

$$\diamond = \boxed{2} \quad \star = \boxed{4} \quad \star = \boxed{8} \quad \nabla = \boxed{3}$$

$$\star = \boxed{9} \quad \square = \boxed{6} \quad \bullet = \boxed{12}$$

1 Complete this grid:

x	3	9	10	7	1	5	4	8	2	6
4										
8										
2										

2 Write the missing numbers in these $\times 3$ and $\times 6$ facts:

a $6 \times \square = 36$

b $\square \times 3 = 12$

c $\square \times 3 = 18$

d $3 \times 3 = \square$

e $\square \times 9 = 27$

f $3 \times \square = 24$

3 Write the missing numbers in these $\times 3$ and $\times 6$ facts:

a $\square \times 7 = 35$

b $\square \times 4 = 36$

c $\square \times 9 = 72$

d $7 \times \square = 49$

e $9 \times 6 = \square$

f $7 \times 3 = \square$

Skills	Not yet	Kind of	Got it
• Recalls times table facts $\times 2$, $\times 4$, $\times 8$			
• Recalls times table facts $\times 3$, $\times 6$			
• Recalls times table facts $\times 7$, $\times 9$			

1 Show how you use known facts by building down:

a $3 \times 10 = \square - \square \rightarrow 3 \times 9 = \square$

b $5 \times 10 = \square - \square \rightarrow 5 \times 9 = \square$

c $9 \times 10 = \square - \square \rightarrow 9 \times 9 = \square$

d $6 \times 10 = \square - \square \rightarrow 6 \times 9 = \square$

2 Write the missing numbers in these $\times 11$, $\times 12$ facts:

a $11 \times \square = 77$

b $12 \times 3 = \square$

c $\square \times 12 = 96$

d $4 \times \square = 44$

e $6 \times \square = 72$

f $11 \times 10 = \square$

3 List the first 10 multiples of each number:

a 6

--	--	--	--	--	--	--	--	--	--

b 4

--	--	--	--	--	--	--	--	--	--

4 The factors of 12 are: _____

Skills	Not yet	Kind of	Got it
• Uses known facts to extend multiplication facts			
• Recalls times table facts $\times 11$, $\times 12$			
• Lists multiples and factors of a given number			

Mental multiplication strategies

Name _____

1 Use the double-double strategy and double-double-double strategy to multiply by 4 and 8:

a

$12 \times 4 =$ <input type="text"/>	
Double 12 once	<input type="text"/>
Double 12 twice	<input type="text"/>

b

$13 \times 8 =$ <input type="text"/>	
Double 13 once	<input type="text"/>
Double 13 twice	<input type="text"/>
Double 13 three times	<input type="text"/>

2 Show how to use each strategy:

a The split strategy:

$55 \times 5 \longrightarrow$

So, $55 \times 5 =$

b The compensation strategy:

$19 \times 4 \longrightarrow$

So, $19 \times 4 =$

3 Solve these multiplications:

a $17 \times 1 =$

b $0 \times 29 =$

c $324 \times$ $= 0$

d $\times 38 = 38$

e $3 \times 4 \times 5 =$

f $7 \times 2 \times$ $= 56$

Skills	Not yet	Kind of	Got it
• Uses double-double strategy and double-double-double strategy			
• Uses the split strategy			
• Uses the compensation strategy			
• Multiplies by 0 and 1			
• Multiplies three 1-digit numbers			

- 1** Draw an array to show this division question. Then write the division fact and decide whether it is a sharing or a grouping question:

At a party, each kid gets 6 lollies. If the total amount was 36 lollies, how many kids are there?

$$\square \div \square = \square$$

sharing / grouping

- 2** Solve these divisions:

a $5 \div 1 = \square$

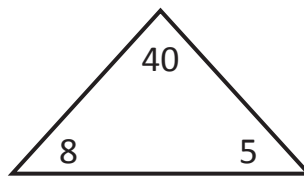
b $\square \div 1 = 13$

c $76 \div \square = 76$

d $\square \div 1 = 638$

- 3** Write a fact family for the set of numbers in the triangle:

$$\begin{array}{l} \square \times \square = \square \\ \square \times \square = \square \end{array}$$



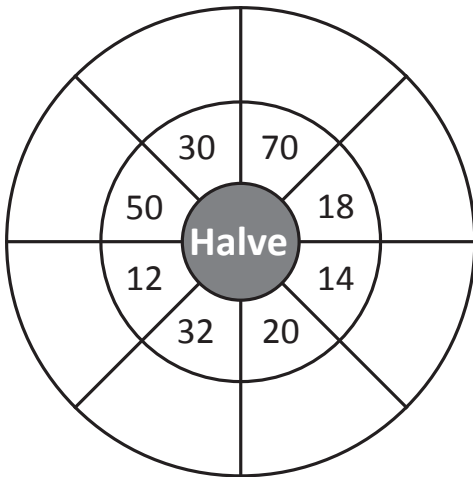
$$\begin{array}{l} \square \div \square = \square \\ \square \div \square = \square \end{array}$$

Skills	Not yet	Kind of	Got it
• Models a division problem			
• Recognises partition and quotient division situations			
• Divides by 1			
• Names a fact family of multiplication and division facts			

Mental division strategies

Name _____

1 Complete the halving wheel:



2 Divide these by 10 and 100:

a $520 \div 10 =$

b $4300 \div 100 =$

c $1600 \div 10 =$

d $2000 \div 100 =$

3 Use the tables for the halving strategy to divide by 4:

a

$80 \div 4 =$ <input type="text"/>	
Halve 80 once	<input type="text"/>
Halve 80 twice	<input type="text"/>

b

$64 \div 4 =$ <input type="text"/>	
Halve 64 once	<input type="text"/>
Halve 64 twice	<input type="text"/>

4 Use the split strategy to divide by 5:

a

$75 \div 5$

$\div 5$ $\div 5$

+ =

b

$145 \div 5$

$\div 5$ $\div 5$

+ =

Skills	Not yet	Kind of	Got it
• Divides 3- and 4-digit numbers by 10 and 100			
• Uses the halving strategy			
• Uses the split strategy with division			

1 Complete these multiplication problems using a written method:

a

	H	T	O
		2	9
x			4
	<input type="text"/>	<input type="text"/>	

b

	H	T	O
		4	3
x			5
	<input type="text"/>	<input type="text"/>	

c

	H	T	O
		2	5
x		8	
			3
	<input type="text"/>	<input type="text"/>	

2 Complete these short divisions:

a

	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	8	4	4

b

	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	6	9	3

3 Use the division symbol to solve each problem:

a I drive the same distance to work each day.
Over 6 days the total distance is 618 km.
How far do I drive each day?

	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<input type="text"/>	<input type="text"/>	<input type="text"/>

b 864 doughnuts were delivered by 2 trucks.
How many doughnuts did each truck deliver?

	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<input type="text"/>	<input type="text"/>	<input type="text"/>

Skills	Not yet	Kind of	Got it
• Uses written methods for multiplication			
• Completes short division problems with 3-digit numbers			
• Uses the division symbol for word problems			

- 1 Each child has 4 buttons on their school shirt. Complete the table to show how many buttons different amounts of children have.

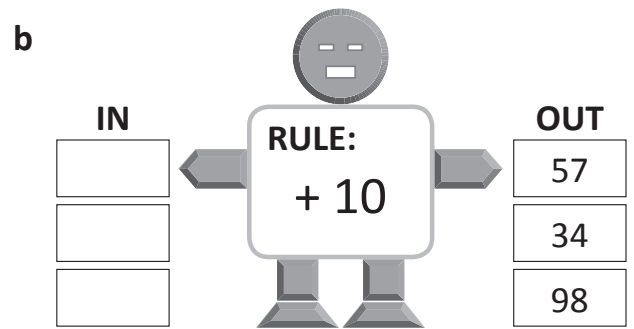
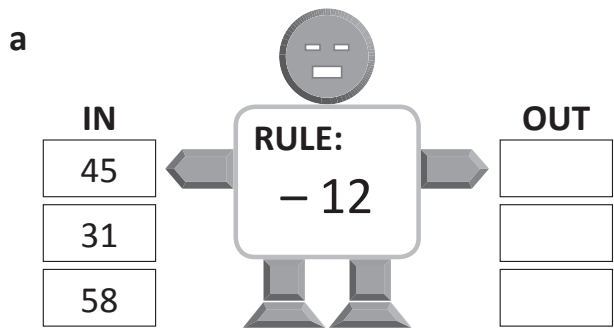


Number of children	1	2	3	4	5	10
Number of buttons	4					

a How many buttons do 20 children have?

b How did you work this out?

- 2 Complete these function machines.

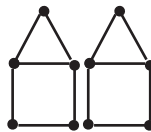


- 3 Complete the table for each sequence of matchstick shapes and find the number of matchsticks needed for the 10th shape:

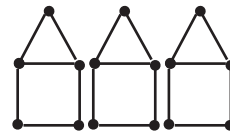
Shape 1



Shape 2



Shape 3



Shape number	1	2	3	4	5	10
Number of matchsticks	6					

Skills	Not yet	Kind of	Got it
• Completes a shape or number pattern by following a function rule			
• Can write a rule to describe input and output relationships			

4 Colour the skip counting pattern for 4s up to 30.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

a If you kept going on a complete hundred grid, would 54 be coloured in?

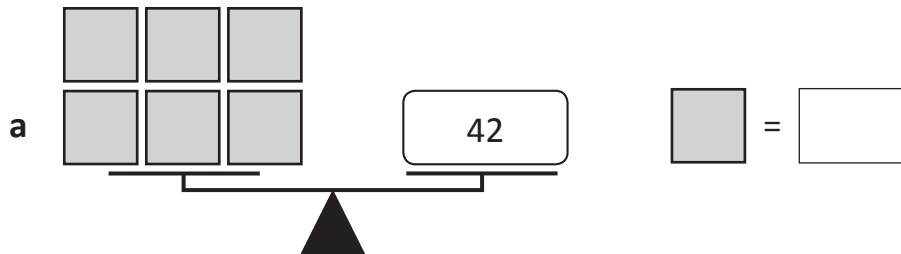
Yes / No

b How can you tell without using a whole hundred grid?

5 Complete a number sequence for each rule:

Rules	Sequences					
$\times 2 + 1$	2					
$\times 2 - 1$	2					
$\times 3 - 1$	2					

6 Find the value of the symbol:



b Mia saved £9 of her pocket money each week over 6 weeks but then spent £15. How much did she have at the end of 6 weeks? Write an equation using a symbol to represent the unknown and show your working in the space on the right:

Skills	Not yet	Kind of	Got it
• Completes a number pattern and write the rule in words			
• Completes a number pattern with 2 operations			
• Finds the value of a symbol			

Series E – Multiplication and Division – Student Progress Record

Name _____ Class _____ Date _____

What went well: _____

What I need to improve: _____



Series E – Multiplication and Division – Student Progress Record

Name _____ Class _____ Date _____

What went well: _____

What I need to improve: _____

Series E – Multiplication and Division

ASSESSMENT ANSWERS

Page 10

1	x	3	9	10	7	1	5	4	8	2	6
	4	12	36	40	28	4	20	16	32	8	24
	8	24	72	80	56	8	40	32	64	16	48
	2	6	18	20	14	2	10	8	16	4	12

2a 6

b 4

c 6

d 9

e 3

f 8

3a 5

b 9

c 8

d 7

e 54

f 21

Page 11

1a $3 \times 10 = \boxed{30} - \boxed{3} \rightarrow 3 \times 9 = \boxed{27}$

b $5 \times 10 = \boxed{50} - \boxed{5} \rightarrow 5 \times 9 = \boxed{45}$

c $9 \times 10 = \boxed{90} - \boxed{9} \rightarrow 9 \times 9 = \boxed{81}$

d $6 \times 10 = \boxed{60} - \boxed{6} \rightarrow 6 \times 9 = \boxed{54}$

2a 7

b 36

c 8

d 11

e 12

f 110

3a

6	12	18	24	30	36	42	48	54	60
---	----	----	----	----	----	----	----	----	----

b

4	8	12	16	20	24	28	32	36	40
---	---	----	----	----	----	----	----	----	----

4 1, 12, 2, 6, 3, 4

Page 12

1a 48; 24; 48

b 104; 26; 52; 104

2 Teacher check.

a $50 \times 5 + 5 \times 5$

$$250 + 25 = 275$$

b $20 \times 4 = 80 - 4 = 76$

3a 17

b 0

c 0

d 1

e 60

f 4

Page 13

1 Drawings will vary.

$$\boxed{36} \div \boxed{6} = \boxed{6}$$

grouping

2a 5

b 13

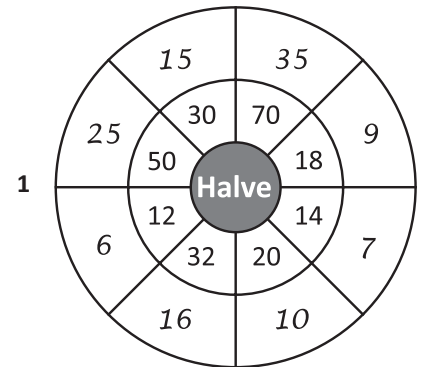
c 1

d 638

3

$8 \times 5 = 40$	$40 \div 8 = 5$
$5 \times 8 = 40$	$40 \div 5 = 8$

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2a 52

b 43

c 160

d 20

3a 20; 40; 20

b 16; 32; 16

4a

$$\begin{array}{r} 75 \div 5 \\ \downarrow \quad \searrow \\ \boxed{50} \quad \boxed{25} \\ \div 5 \quad \div 5 \end{array}$$

$$\boxed{10} + \boxed{5} = \boxed{15}$$

b

$$\begin{array}{r} 145 \div 5 \\ \downarrow \quad \searrow \\ \boxed{100} \quad \boxed{45} \\ \div 5 \quad \div 5 \end{array}$$

$$\boxed{20} + \boxed{9} = \boxed{29}$$

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1a

	H	T	O
		2	9
x			4
	1	1	6
			3

Series E – Multiplication and Division

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1b

	H	T	O
		4	3
×			5
	2	1	5
	□	□	□

c

	H	T	O
	2	5	8
×			3
	7	7	4
	□	□	□

2a 4

	2	1	1
4	8	4	4

b 3

	2	3	1
3	6	9	3

3a

	1	0	3
6	6	1	8

b

	4	3	2
2	8	6	4

Pages 16–17

1

8	12	14	20	40
---	----	----	----	----

- a 80
 b Multiplied the number of children by 4.

2a OUT: 33; 19; 46

b IN: 47; 24; 88

3

12	18	24	30	60
----	----	----	----	----

4a

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

No

4b 54 is not in the 4 times table.

5

Rules	Sequences					
$\times 2 + 1$	2	5	11	23	47	95
$\times 2 - 1$	2	3	5	9	17	33
$\times 3 - 1$	2	5	14	41	122	365

6a 7

b $(£9 \times 6) - £15 = \triangle$
 $£54 - £15 = £39$
 $\triangle = £39$

*Choice of symbol will vary.

Series E – Multiplication and Division

Topic	Reference	Strand	Substrand	Objective
Multiplication Facts	4C6a	Number	Calculation	Recall multiplication and division facts for multiplication tables up to 12×12 .
Using Known Facts	4C6c	Number	Calculation	Recognise and use factor pairs and commutativity in mental calculations.
Division	3C7	Number	Calculation	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods.
Mental Strategies	4C6b	Number	Calculation	Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.
Written Methods	4C7	Number	Calculation	Multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout.
Patterns and Algebra	4C8	Number	Calculation	Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.
Games and Investigations	4C8	Number	Calculation	Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.