MC RaPa CoOCoB NumFa

69 **MS1** MC = Manipulate Calculation

77 **MS2** Ra = Round and Adjust

85 **MS3** Pa = Partitioning

91 **MS4** CoO = Counting On

108 **MS5** CoB = Counting Back

123 **MS6** NumFa = Number Facts

6 Cool Strategies for Mental Subtraction!

St Philip's CE Primary School

MS

MS1: Manipulate Calculation

84 - 29 = 55

+1 +1

85 - 30 = 55

MA2: Round & Adjust

84 - 29 = 55

84 - 30 + 1

54 + 1 = 55

MS3: Partitioning

63 - 35 = 28

-33 -2

63 30 28

MS4a: Counting On

61 - 58 = 3

+3

58 61

MS4b: Counting On

40 - 28 = 12

+2 +10

28 30 40

MS5a: Counting Back

68 - 20 = 48

48 68

-20

MS5b: Counting Back

86 - 12 = 74

-10 -2

86 76 74

MS6: Number Facts

61 - 41 = 20

41 + 20 = 61

MC RaPa CoOCoB NumFa

- MS1 MC = Manipulate Calculation
- MS2 Ra = Round and Adjust
- MS3 Pa = Partitioning
- MS4 CoO = Counting On
- MS5 CoB = Counting Back
- MS6 NumFa = Number Facts

6 Cool Strategies for Mental Subtraction!

MS1: Manipulate Calculation

24 - 9 = 15

+15 +15

9 24 10 25

24 - 9 = 25 - 10

(24 + 1 - (9 + 1)

MA2: Round & Adjust

24 - 9 = 15

-10 +1

24 14 15

MS3: Partitioning

63 - 35 = 28

28 30 63

-2 -33

MS4a: Counting On

12 - 9 = 3

12 9 3

MS4b: Counting On

40 - 28 = 12

+2 +10

28 30 40

MS5a: Counting Back

68 - 20 = 48

68 48

-20

MS5b: Counting Back

86 - 12 = 74

74 76 86

-2 -10

MS6: Number Facts

61 - 41 = 20

41 + 20 = 61

Y1

MS1: Manipulate Calculation

24 - 9 = 15

+1 +1

25 - 10 = 15

MA2: Round & Adjust

24 - 9 = 15

24 - 10 + 1

14 + 1 = 15

MS3: Partitioning

23 - 8 = 15

-3 -5

23 20 15

MS4a: Counting On

12 - 9 = 3

+3

9 12

MS5a: Counting Back

15 - 4 = 11

11 15

-4

MS6: Number Facts

19 - 9 = 10

9 + 10 = 19

Y2

MS1: Manipulate Calculation

84 - 29 = 55

+1 +1

85 - 30 = 55

MA2: Round & Adjust

84 - 29 = 55

84 - 30 + 1

54 + 1 = 55

MS3: Partitioning

63 - 35 = 28

-33 -2

63 30 28

MS4a: Counting On

61 - 58 = 3

+3

58 61

MS4b: Counting On

40 - 28 = 12

+2 +10

28 30 40

+10 +2

28 38 40

MS5a: Counting Back

68 - 20 = 48

48 68

-20

MS5b: Counting Back

86 - 12 = 74

-10 -2

86 76 74

MS6: Number Facts

61 - 41 = 20

41 + 20 = 61

Y3

MS1: Manipulate Calculation

463 - 97 = 366

+3 +3

466 - 100 = 366

MA2: Round & Adjust

463 - 97 = 366

463 - 100 + 3

363 + 3 = 366

MS3: Partitioning

123 - 28 = 95

-23 -5

123 100 95

MS4a: Counting On

302 - 297 = 5

+5

297 302

MS4b: Counting On

61 - 37 = 24

+3 +21

37 40 61

+20 +4

37 57 61

MS5a: Counting Back

378 - 50 = 328

328 378

-50

MS5b: Counting Back

89 - 34 = 55

-30 -4

89 59 55

MS6: Number Facts

123 - 83 = 40

83 + 40 = 123

Y4

MS1: Manipulate Calculation

876 - 298 = 578

+2 +2

878 - 300 = 578

MA2: Round & Adjust

876 - 298 = 578

876 - 300 + 2

576 + 2 = 578

MS3: Partitioning

132 - 58 = 74

-52 -6

132 80 74

MS4a: Counting On

1003 - 998 = 5

+5

998 1003

MS4b: Counting On

324 - 280 = 44

+20 +24

280 300 324

MS5a: Counting Back

768 - 200 = 568

568 768

-200

MS5b: Counting Back

578 - 45 = 533

-40 -5

578 538 533

MS6: Number Facts

847 - 447 = 400

447 + 400 = 847

Y5

MS1: Manipulate Calculation

5864 - 2996 = 2868

+4 +4

5868 - 3000 = 2868

MA2: Round & Adjust

5864 - 2996 = 2868

5864 - 3000 + 4

2864 + 4 = 2868

MS3: Partitioning

750 - 372 = 378

-350 -22

750 400 378

MS4a: Counting On

8.3 - 7.9 = 0.4

+0.4

7.9 8.3

MS4b: Counting On

1204 - 950 = 254

+50 +204

950 1000 1204

MS5a: Counting Back

7291 - 2000 = 5291

5291 7291

-2000

MS5b: Counting Back

8.6 - 4.1 = 4.5

-4 -0.1

8.6 4.6 4.5

MS6: Number Facts

1424 - 724 = 700

724 + 700 = 1424

Y6

MS1: Manipulate Calculation

46357 - 11999 = 34358

+1 +1

46358 - 12000 = 34358

MA2: Round & Adjust

46357 - 11999 = 34358

46357 - 12000 + 1

46357 + 1 = 34358

MS3: Partitioning

£64.30 - £24.50 = £39.80

-£24.30 -20p

£64.30 £40 £39.80

MS4a: Counting On

£12.02 - £11.98 = 4p

+4p

£11.98 £12.02

MS4b: Counting On

12.4 - 9.8 = 2.6

+0.2 +2.4

9.8 10 12.4

MS5a: Counting Back

86374 - 20000 = 66374

66374 86374

-20000

MS5b: Counting Back

£65.87 - £30.24 = £35.63

-£30 -24p

£65.87 £35.87 £35.63

MS6: Number Facts

13.2 - 9.2 = 4

9.2 + 4 = 13.2

Progression Overviews

MS1: Manipulate Calculation

MC RaPa CoOCoB NumFa

$$84 - 29 = 55$$

+1 +1

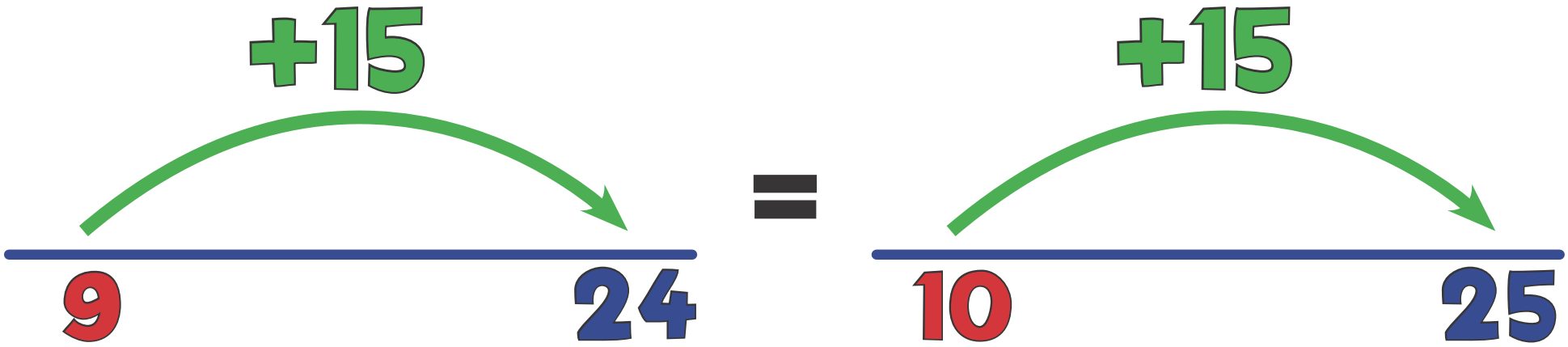
$$85 - 30 = 55$$

MS1: Manipulate Calculation

MC RaPa CoOCoB NumFa
Visualisation

Same Difference!

$$24 - 9 = 15$$



$$24 - 9 = 25 - 10$$

$$(24 + 1) - (9 + 1)$$

MS1: Manipulate Calculation

MC RaPa CoOCoB NumFa 1

Same Difference!

$$24 - 9 = 15$$

+1 +1

$$25 - 10 = 15$$

MS1: Manipulate Calculation

MC RaPa CoOCoB NumFa 2

Same Difference!

$$84 - 29 = 55$$

+1 +1

$$85 - 30 = 55$$

MS1: Manipulate Calculation

MC RaPa CoOCoB NumFa 3

Same Difference!

463 - 97 = 366

+3 +3

466 - 100 = 366

MS1: Manipulate Calculation

MC RaPa CoOCoB NumFa 4

Same Difference!

$$876 - 298 = 578$$

+2 +2

$$878 - 300 = 578$$

MS1: Manipulate Calculation

MC RaPa CoOCoB NumFa 5

Same Difference!

$$5864 - 2996 = 2868$$

+4 +4

$$5868 - 3000 = 2868$$

MS1: Manipulate Calculation

MC RaPa CoOCoB NumFa 6

Same Difference!

46357 - 11999 = 34358

+1 +1

46358 - 12000 = 34358

MS2: Round & Adjust

MC RaPa CoOCoB NumFa

$$84 - 29 = 55$$

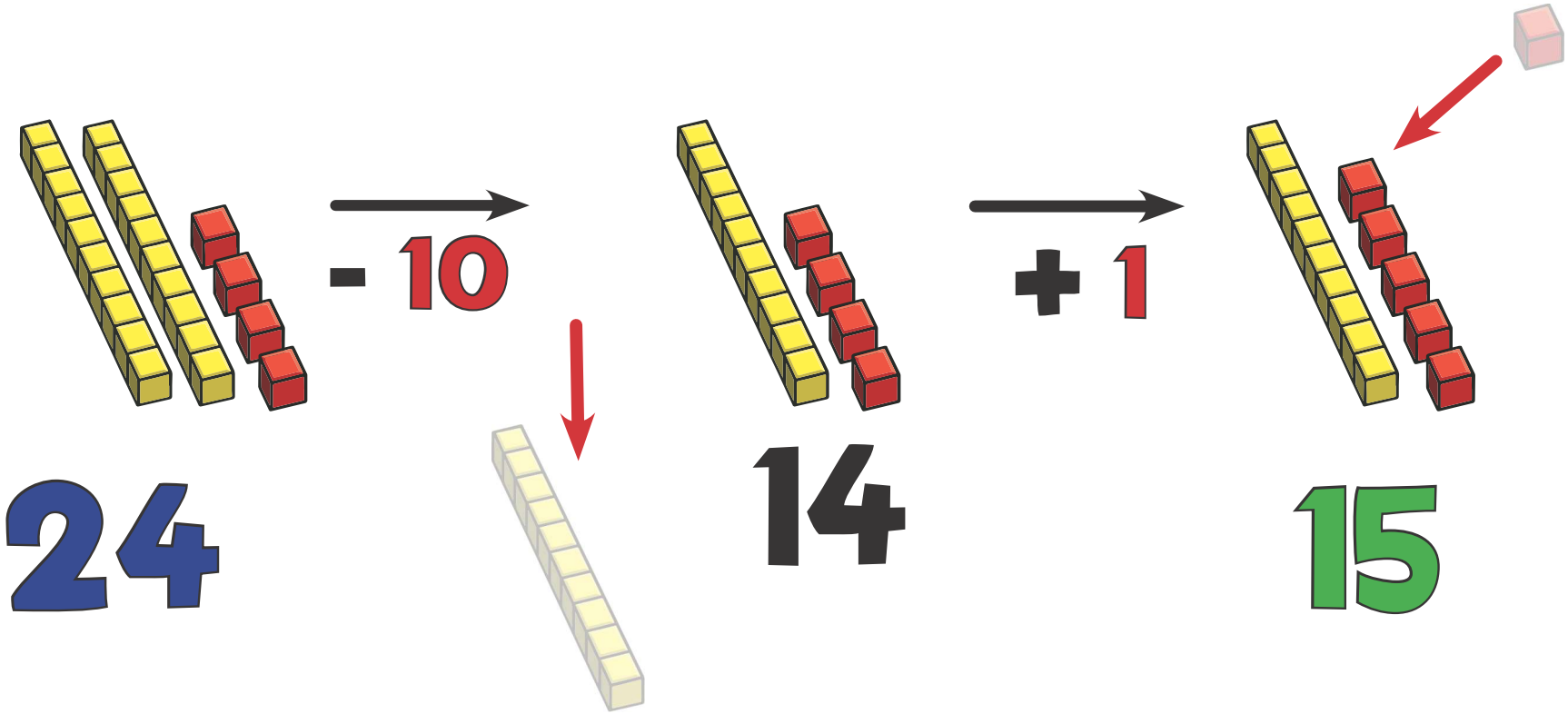
$$84 - 30 + 1$$

$$54 + 1 = 55$$

MS2: Round & Adjust

MC RaPa CoOCoB NumFa
Visualisation

24 - 9 = 15



MS2: Round & Adjust

MC RaPa CoOCoB NumFa 1

$$24 - 9 = 15$$

$$24 - 10 + 1$$

$$14 + 1 = 15$$

MS2: Round & Adjust

MC RaPa CoOCoB NumFa 2

$$84 - 29 = 55$$

$$84 - 30 + 1$$

$$54 + 1 = 55$$

MS2: Round & Adjust

MC RaPa CoOCoB NumFa 3

463 - 97 = 366

463 - 100 + 3

363 + 3 = 366

MA2: Round & Adjust

MC RaPa CoOCoB NumFa
4

876 - 298 = 578

876 - 300 + 2

576 + 2 = 578

MA2: Round & Adjust

MC RaPa CoOCoB NumFa
5

5864 - 2996 = 2868

5864 - 3000 + 4

2864 + 4 = 2868

MS2: Round & Adjust

MC RaPa CoOCoB NumFa

6

46357 - 11999 = 34358

46357 - 12000 + 1

46357 + 1 = 34358

MS3: Partitioning

MC RaPa CoOCoB NumFa

63 - 35 = 28

- 33 - 2

63 30 28

MS3: Partitioning

MC RaPa CoOCoB NumFa
Visualisation

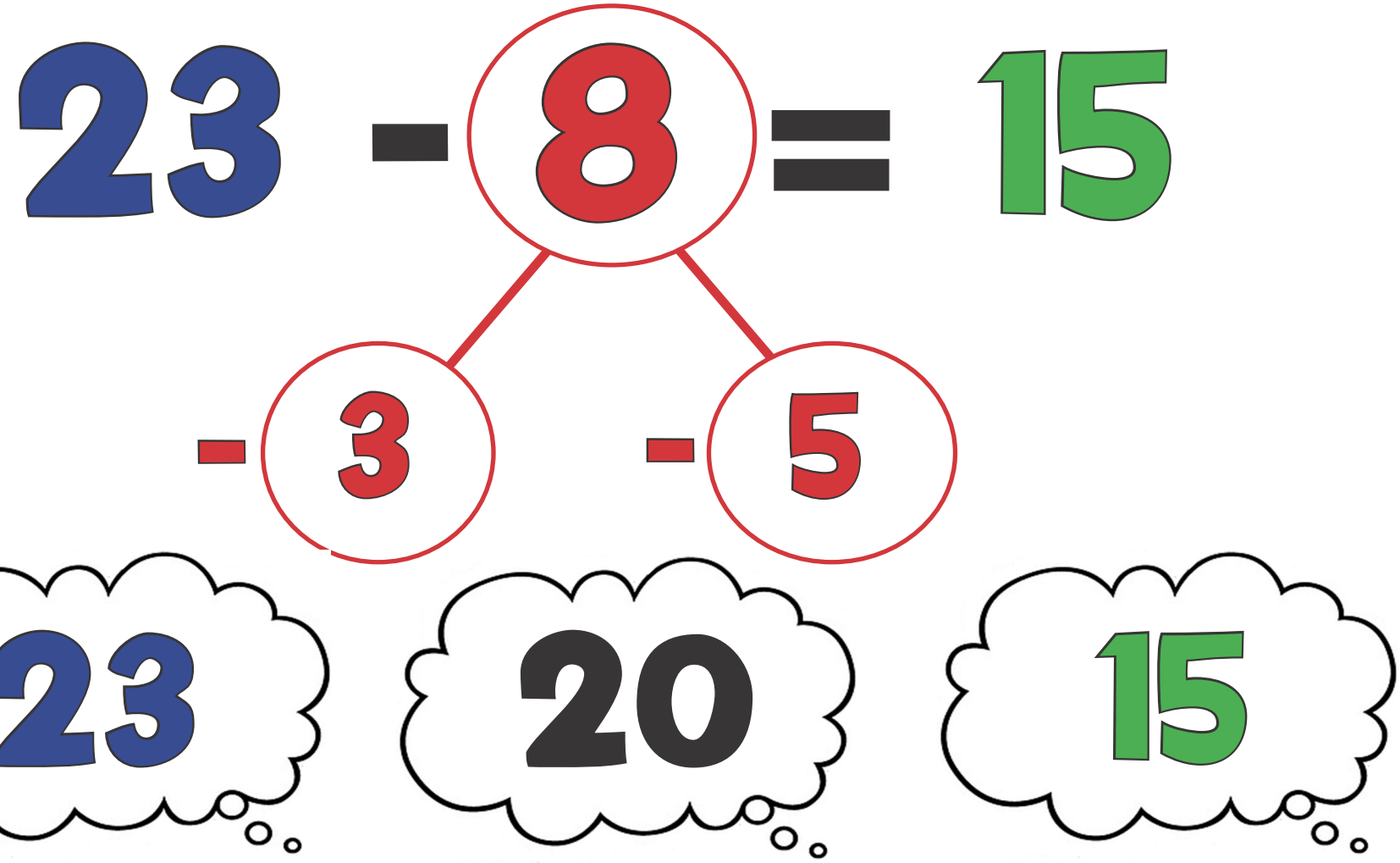
63 - 35 = 28

28 30 63

-2 -33

MS3: Partitioning

MC RaPa CoOCoB NumFa 1



MS3: Partitioning

MC RaPa CoOCoB NumFa 2

63 - 35 = 28

- 33
- 2

63

30

28

MS3: Partitioning

MC RaPa CoOCoB NumFa 3

123 - 28 = 95

- 23
- 5

123

100

95

MS3: Partitioning

MC RaPa CoOCoB NumFa 4

132 - 58 = 74

- 52
- 6

132

80

74

MS3: Partitioning

MC RaPa CoOCoB NumFa
5

750 - 372 = 378

- 350 - 22

750 400 378

MS3: Partitioning

MC RaPa CoOCoB NumFa

6

£64.30 - £24.50 = £39.80

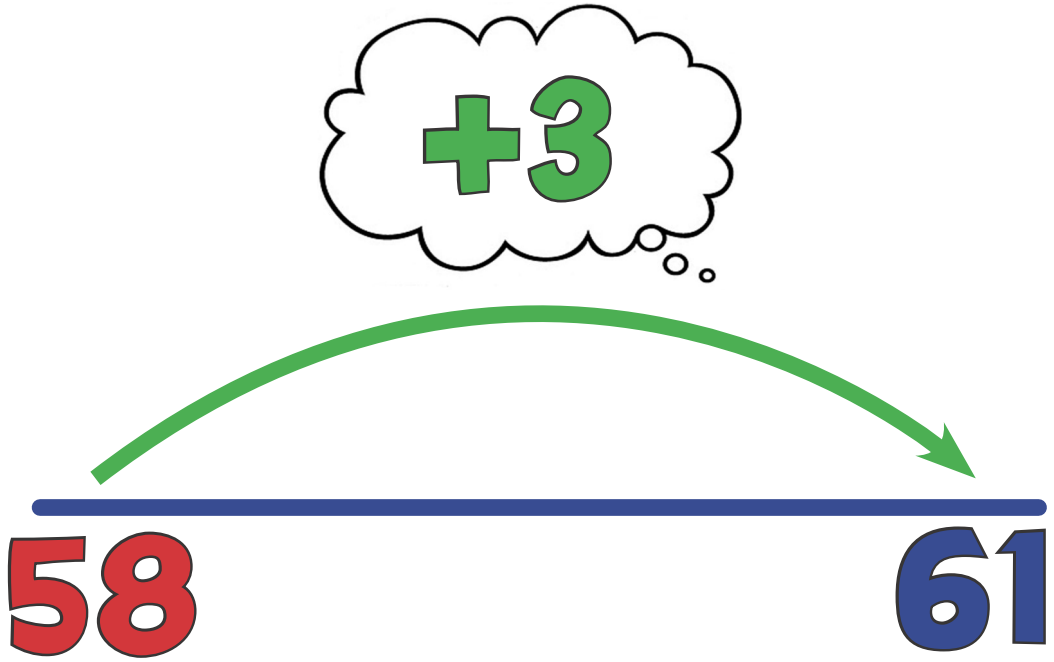
- £24.30 - 20p

MS4a: Counting On

MC RaPa CoOCoB NumFa

Small Difference

61 - 58 = 3

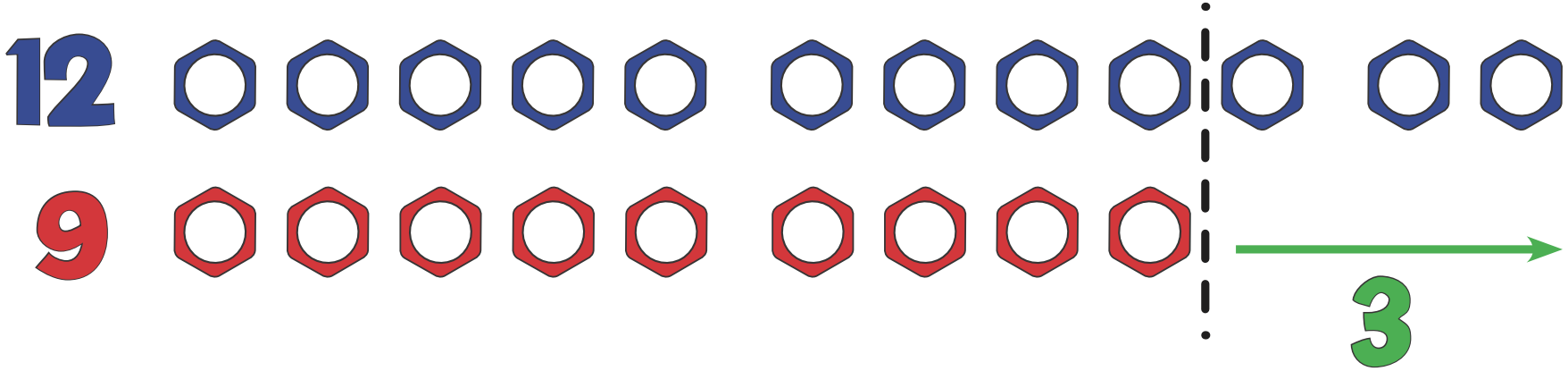


MS4a: Counting On

MC RaPa CoOCoB NumFa
Visualisation

Small Difference

12 - 9 = 3

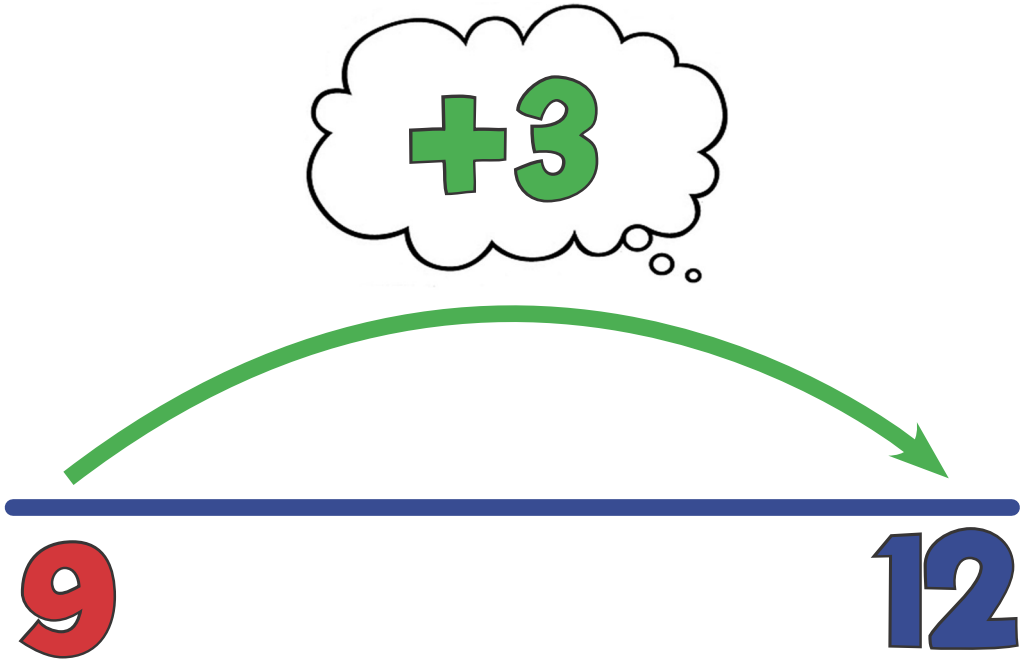


MS4a: Counting On

MC RaPa CoOCoB NumFa 1

Small Difference

$$12 - 9 = 3$$

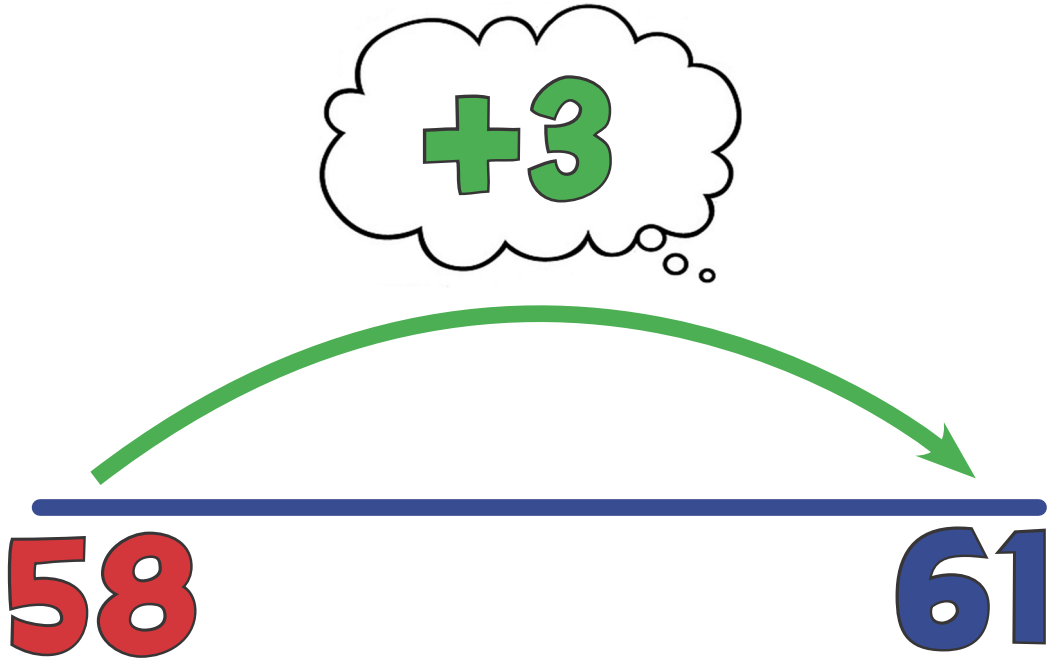


MS4a: Counting On

MC RaPa CoOCoB NumFa 2

Small Difference

61 - 58 = 3

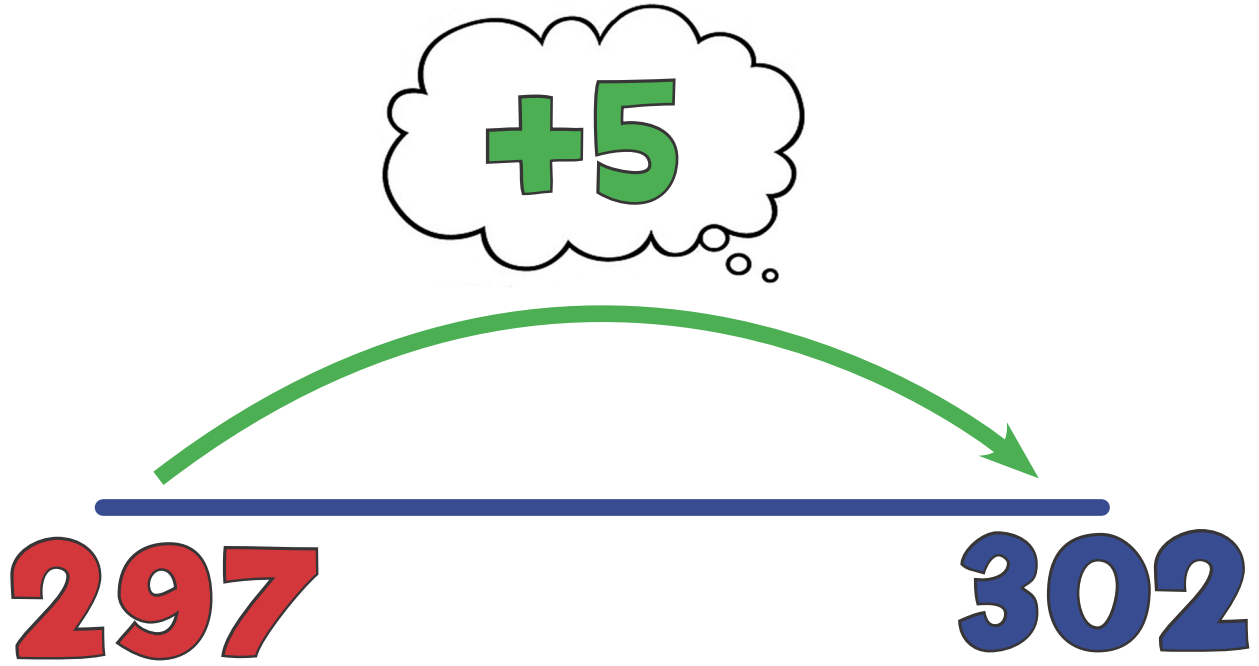


MS4a: Counting On

MC RaPa CoOCoB NumFa 3

Small Difference

302 - 297 = 5

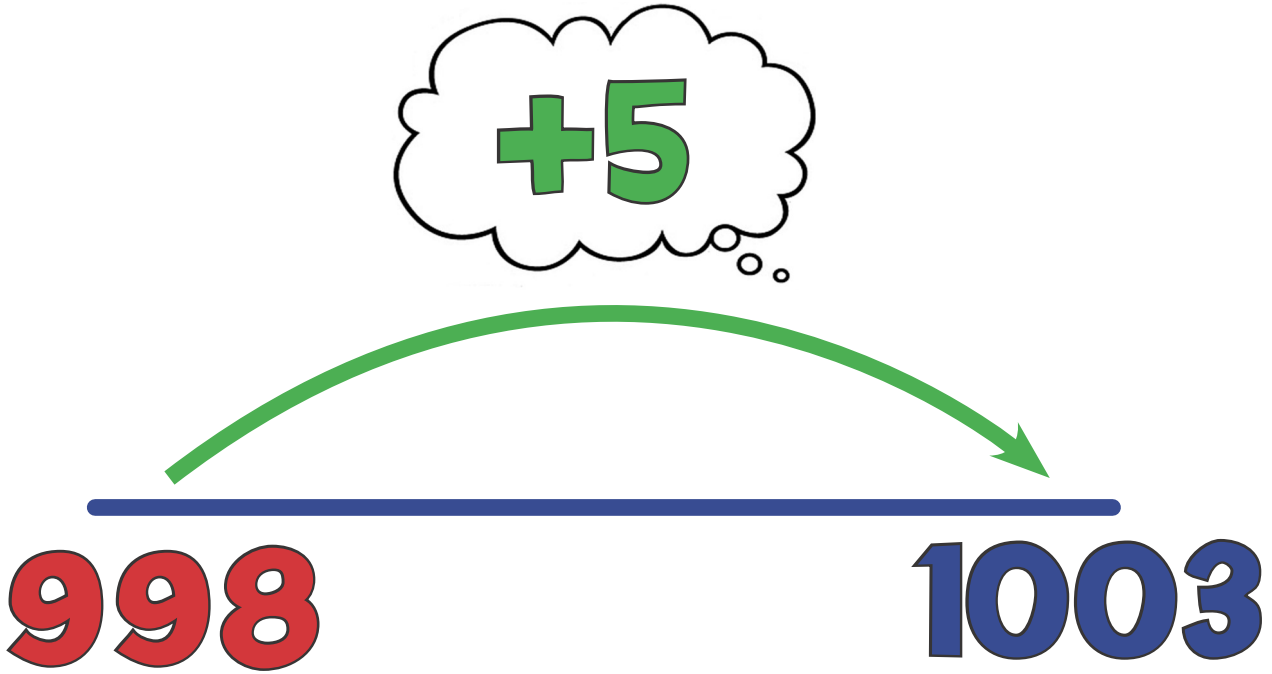


MS4a: Counting On

MC RaPa CoOCoB NumFa 4

Small Difference

1003 - 998 = 5

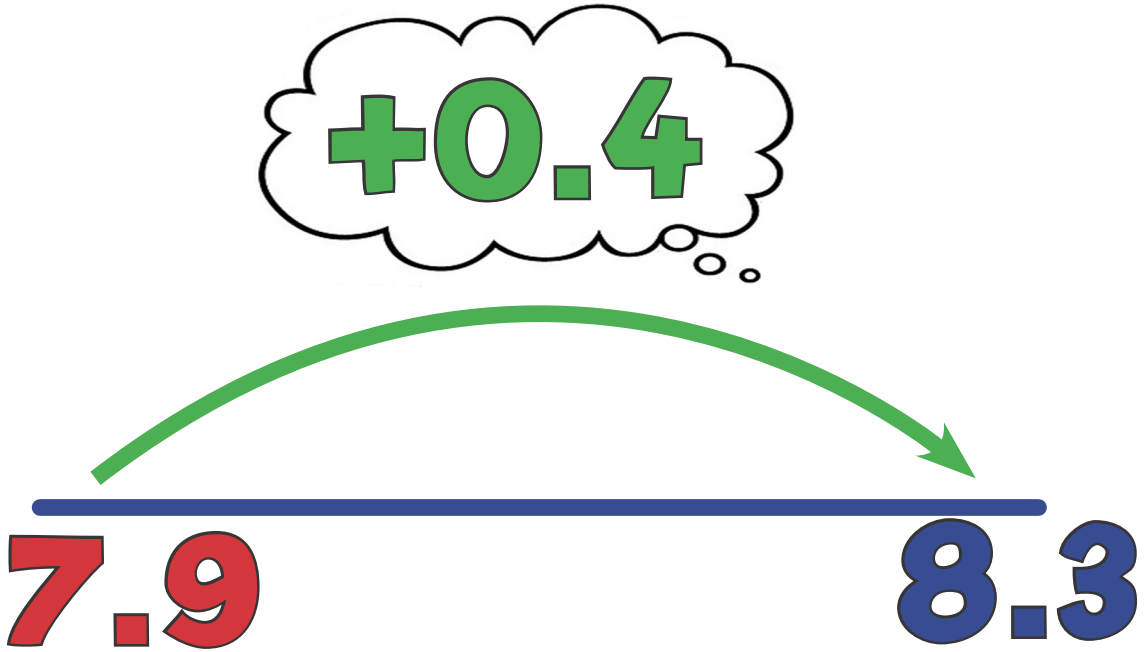


MS4a: Counting On

MC RaPa CoOCoB NumFa 5

Small Difference

8.3 - 7.9 = 0.4

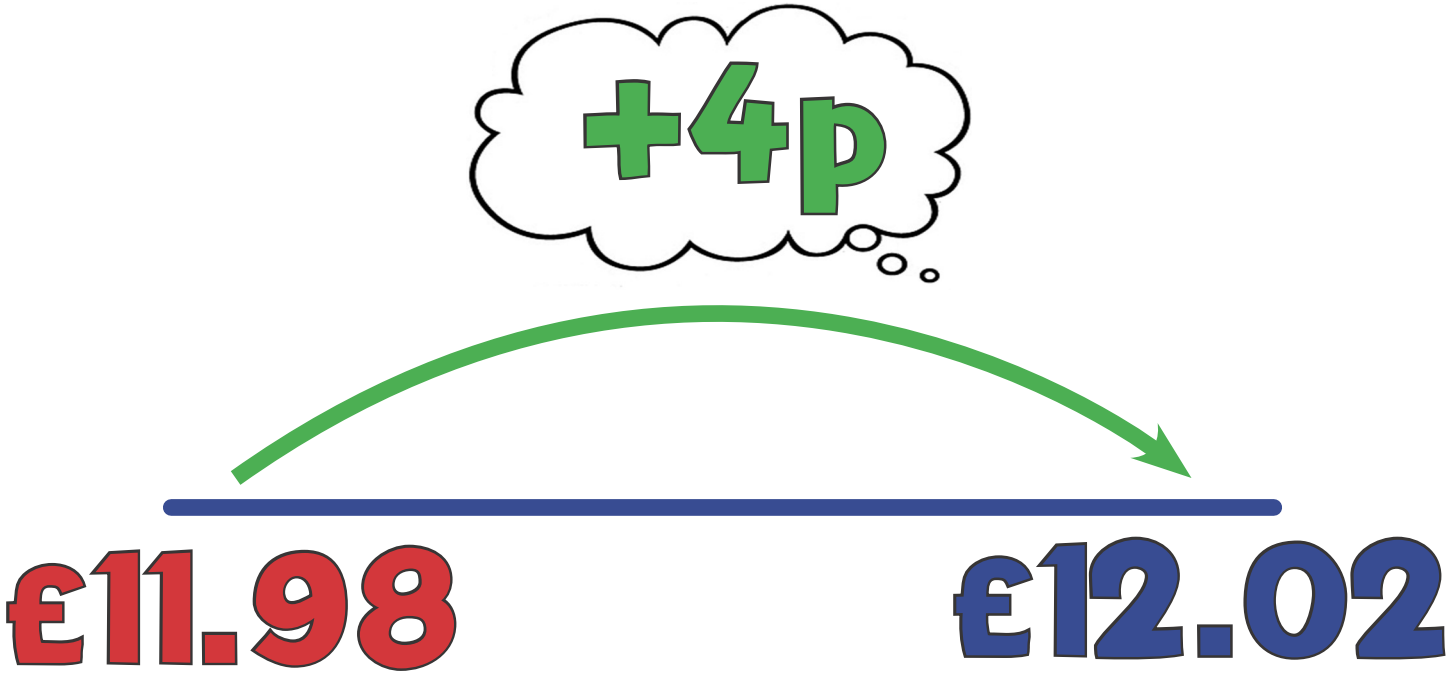


MS4a: Counting On

MC RaPa CoOCoB NumFa 6

Small Difference

£12.02 - £11.98 = 4p

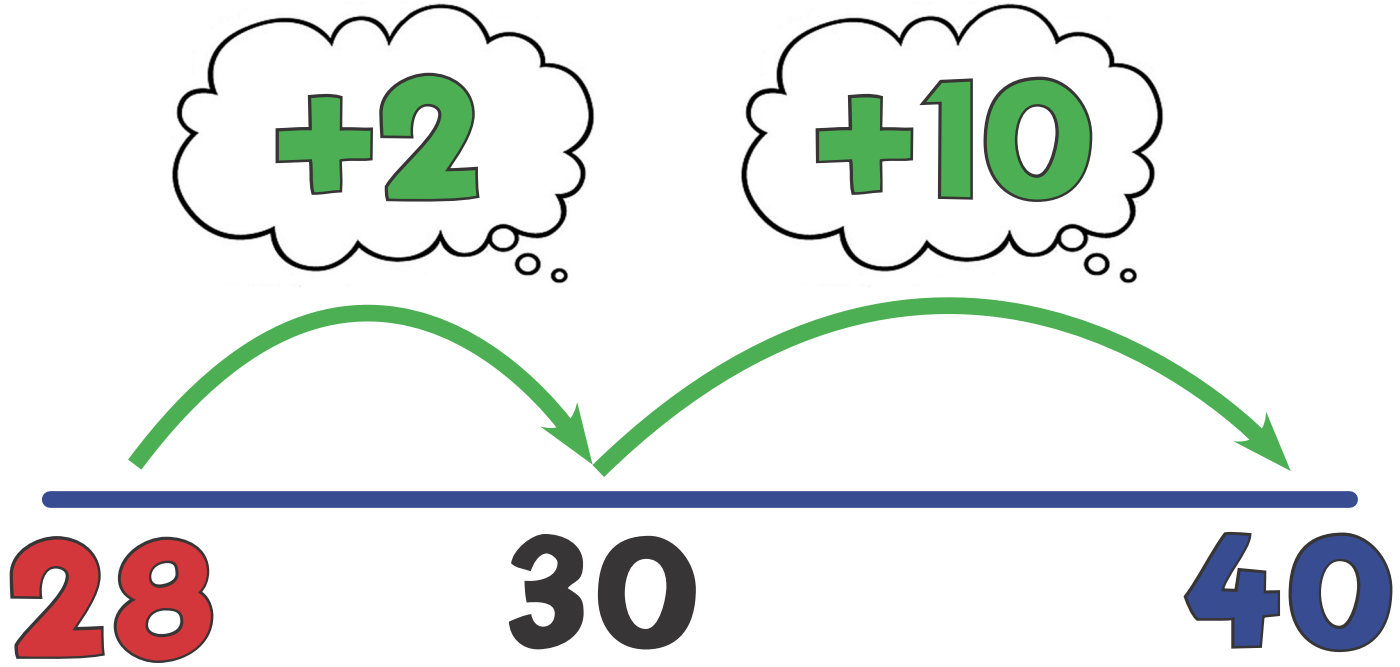


MS4b: Counting On

MC RaPa CoOCoB NumFa

Jumps

40 - 28 = 12

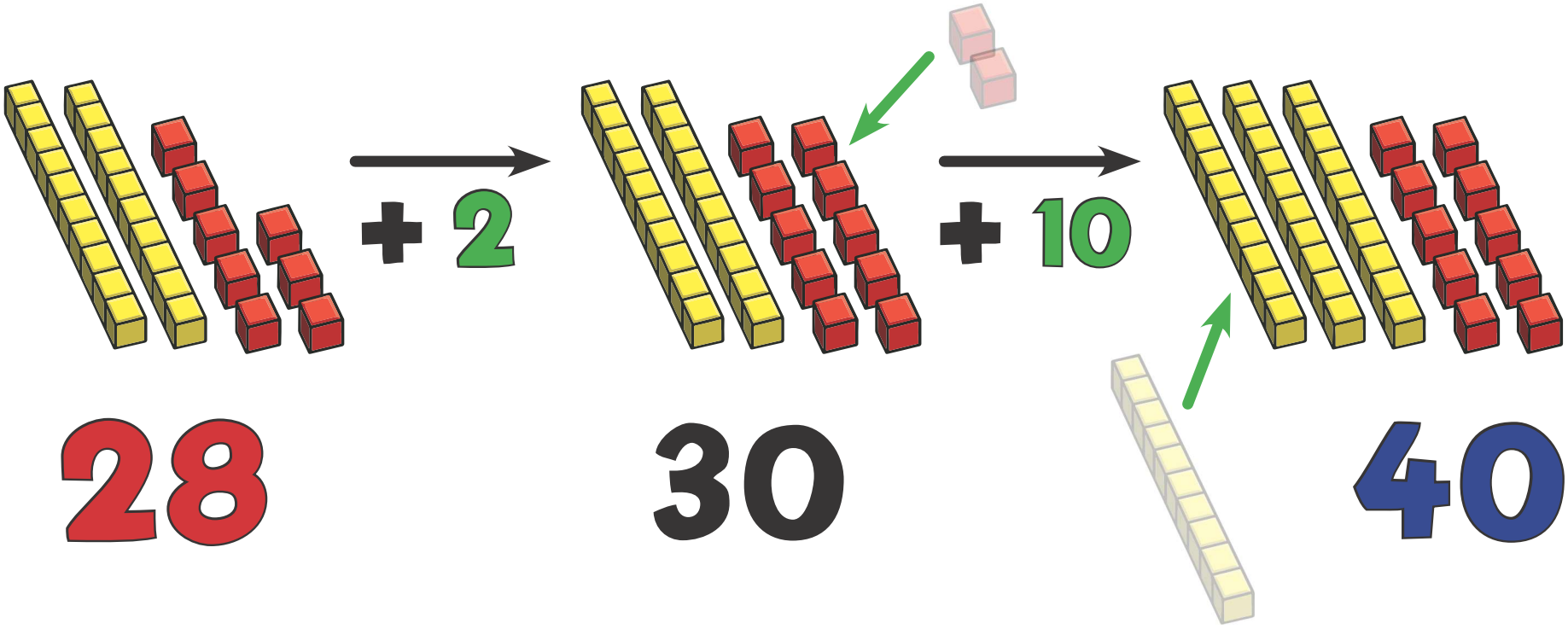


MS4b: Counting On

MC RaPa CoOCoB NumFa
Visualisation

Jumps

40 - 28 = 12

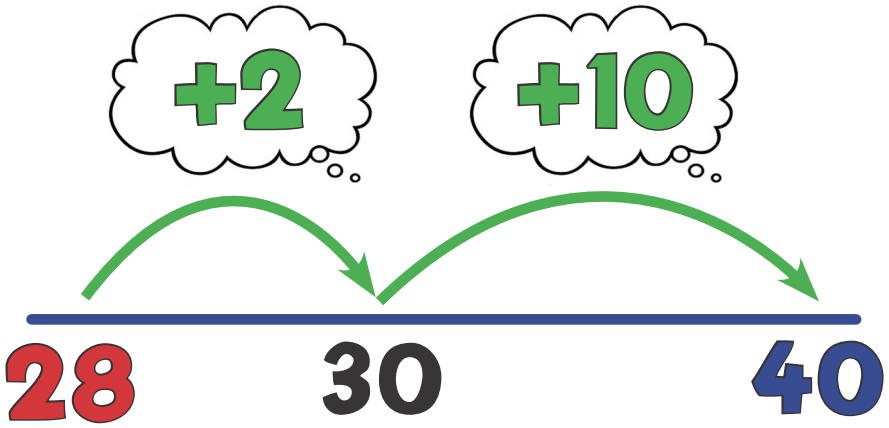


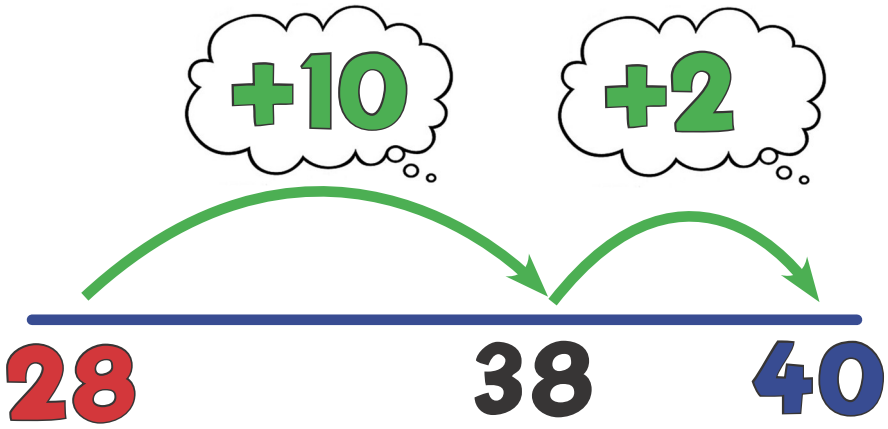
MS4b: Counting On

MC RaPa CoOCoB NumFa 2

Jumps

40 - 28 = 12



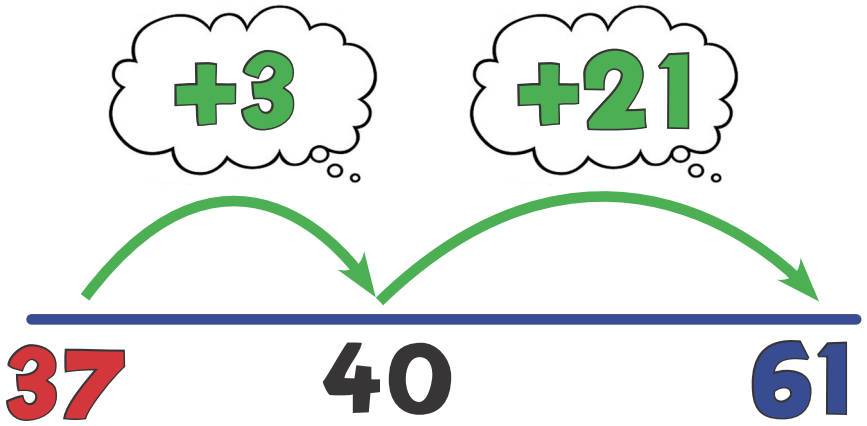


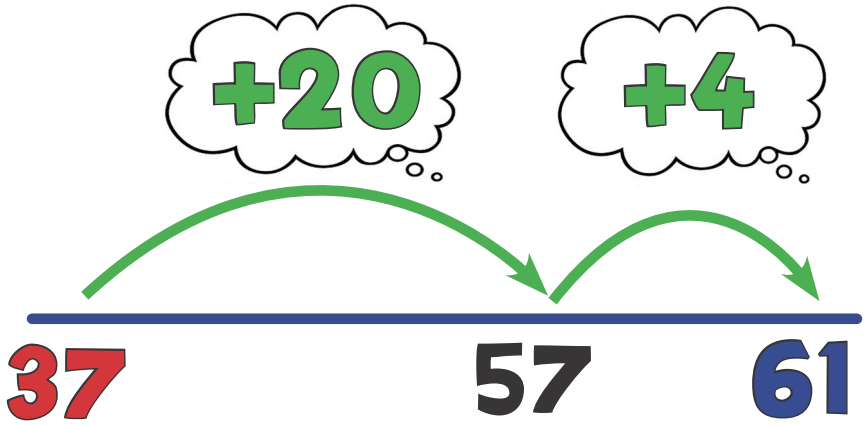
MS4b: Counting On

MC RaPa CoOCoB NumFa 3

Jumps

61 - 37 = 24



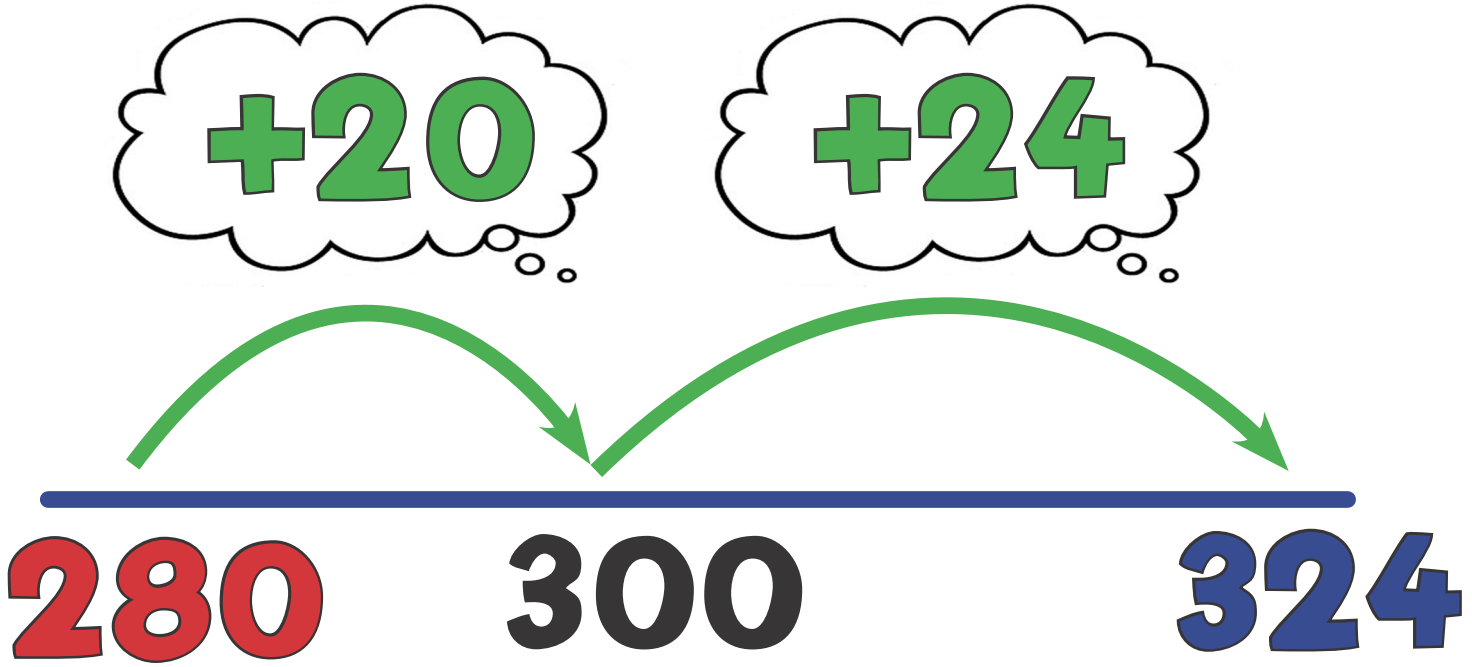


MS4b: Counting On

MC RaPa CoOCoB NumFa 4

Jumps

324 - 280 = 44

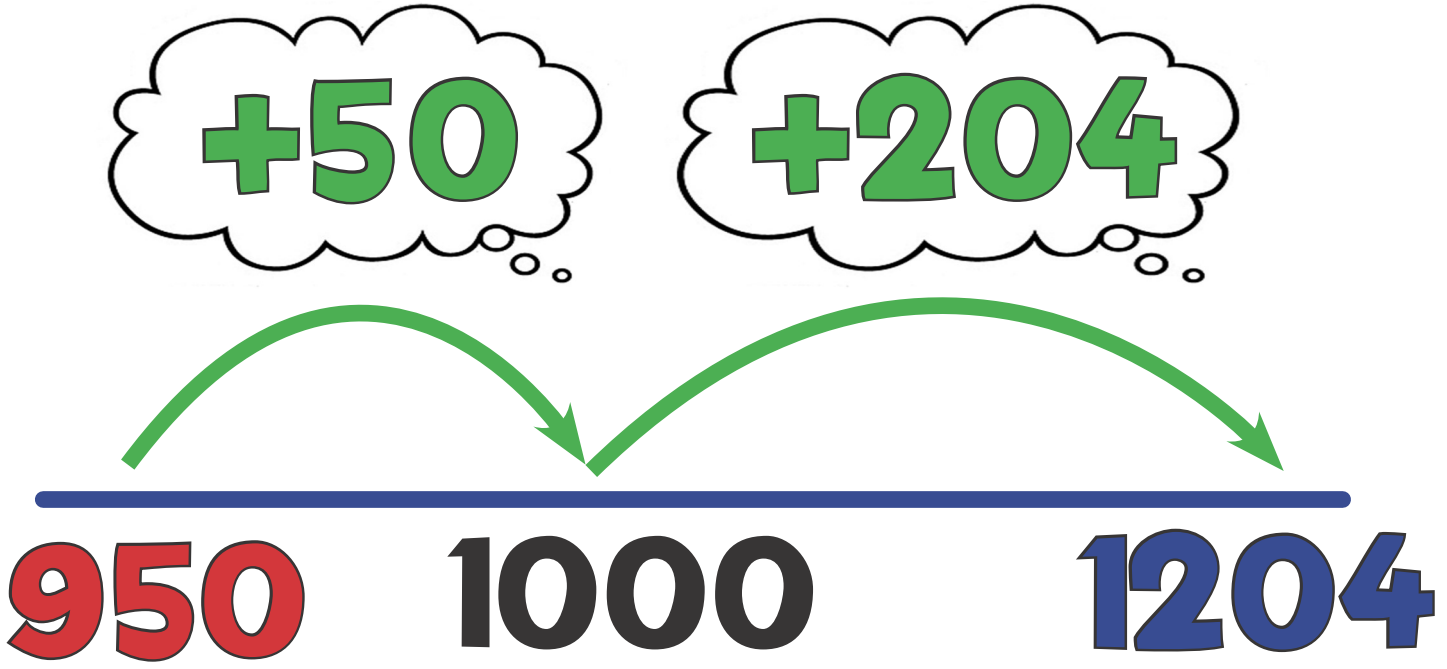


MS4b: Counting On

MC RaPa CoOCoB NumFa 5

Jumps

1204 - 950 = 254

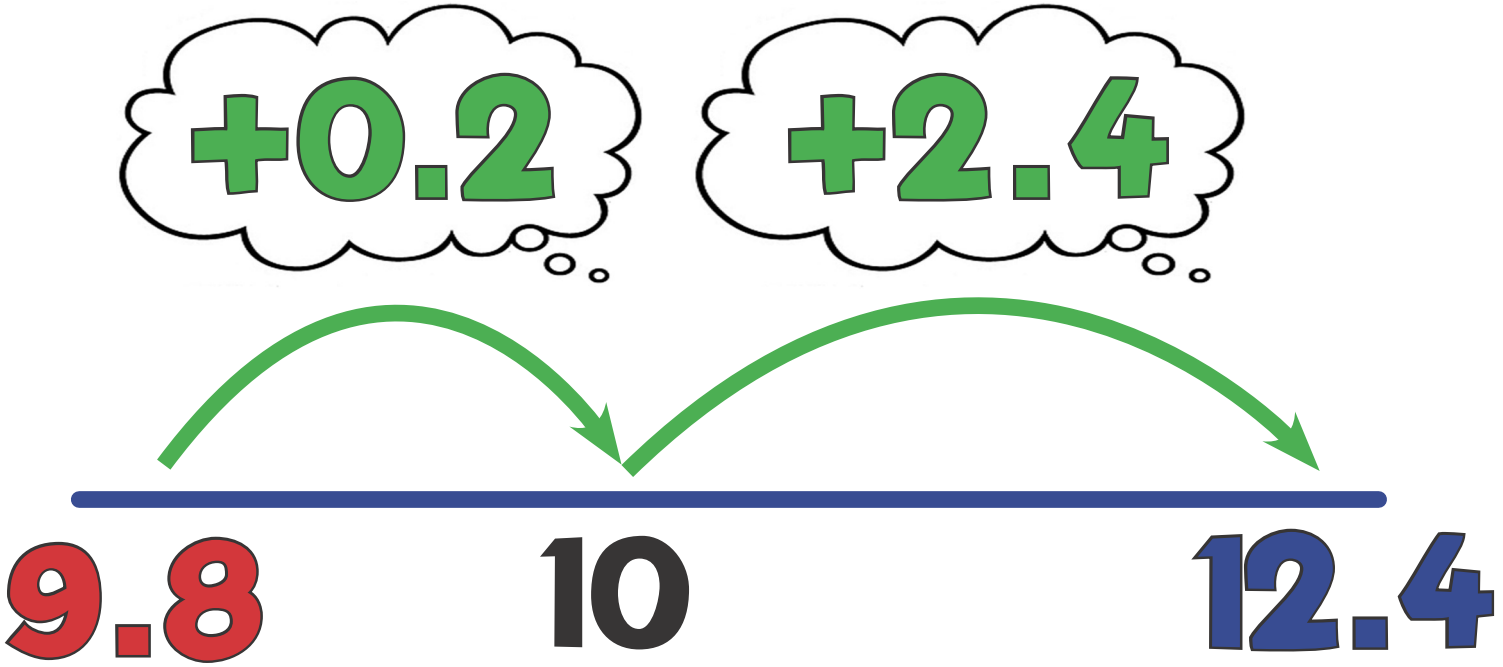


MS4b: Counting On

MC RaPa CoOCoB NumFa 6

Jumps

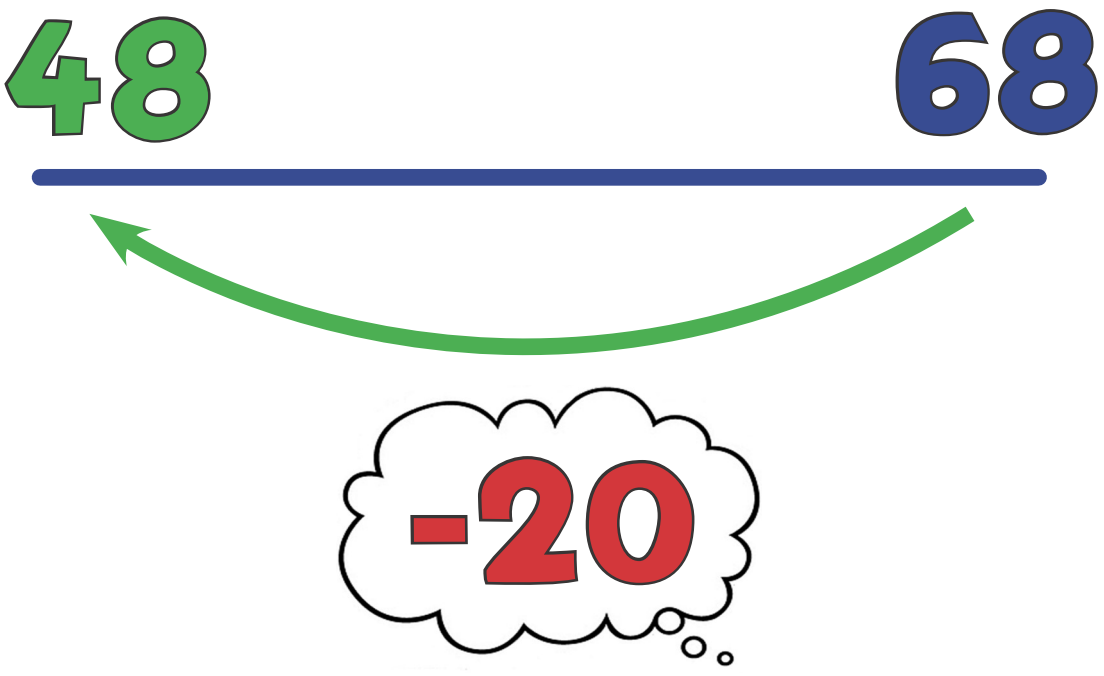
12.4 - 9.8 = 2.6



MS5a: Counting Back

MC RaPa CoOCoB NumFa

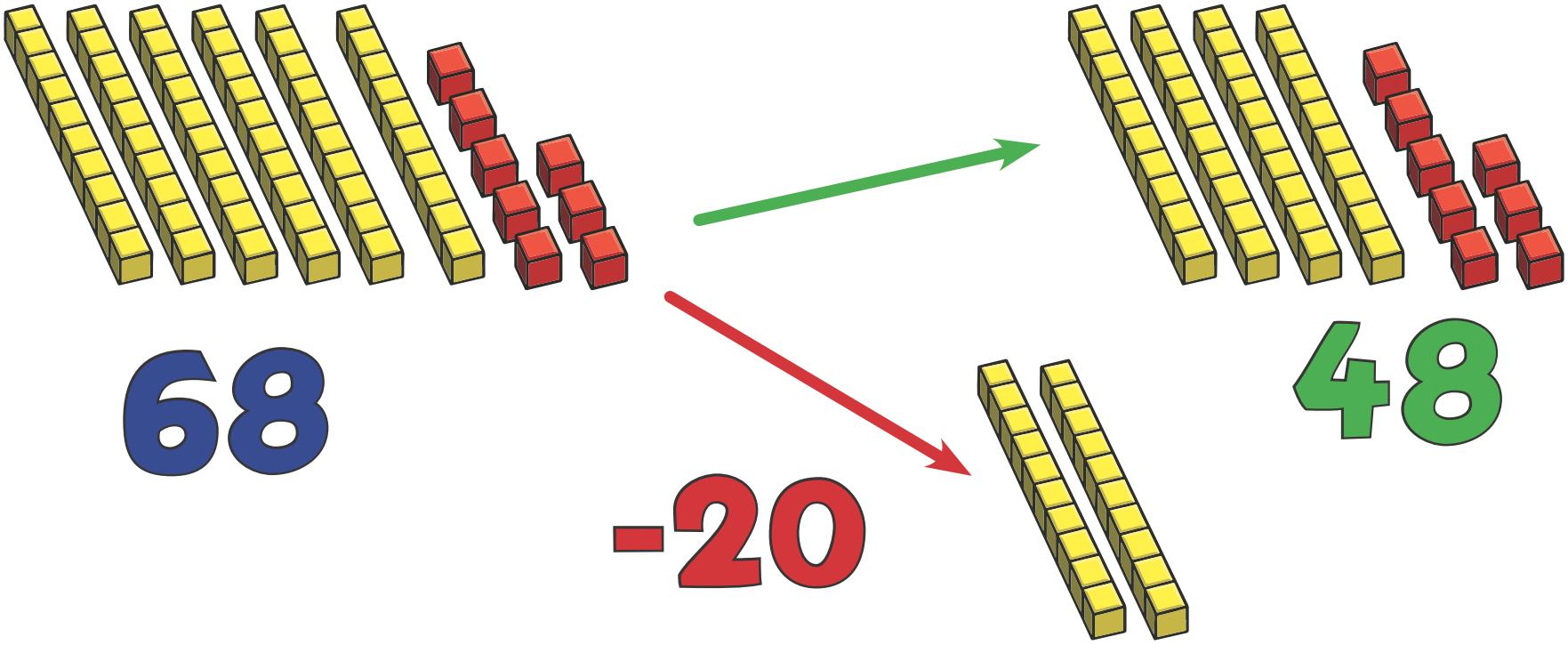
$$68 - 20 = 48$$



MS5a: Counting Back

MC RaPa CoOCoB NumFa
Visualisation

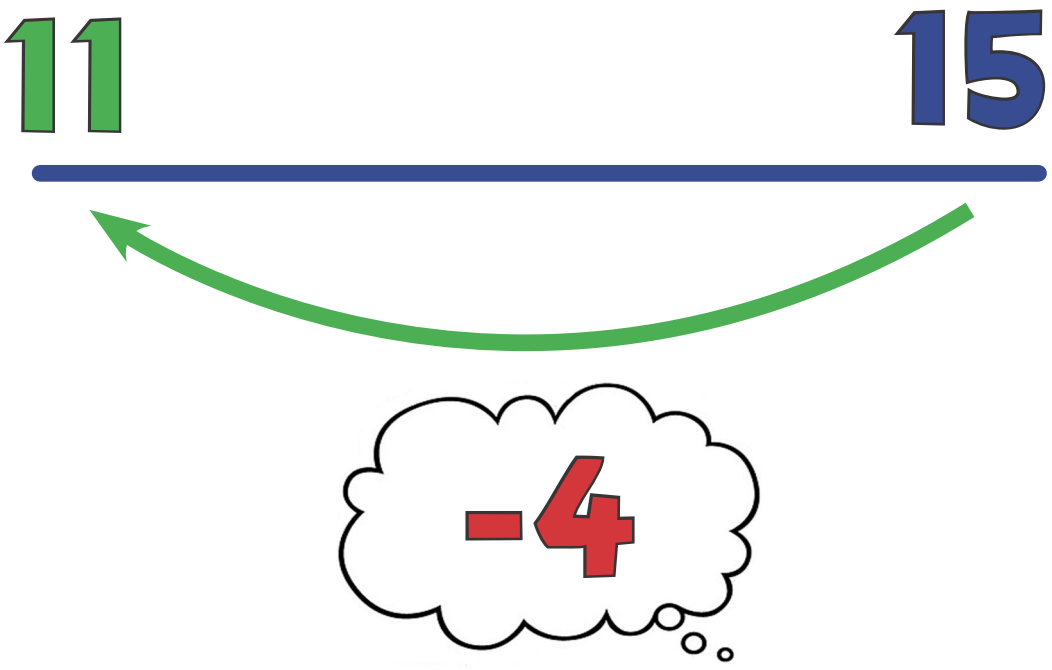
68 - 20 = 48



MS5a: Counting Back

MC RaPa CoOCoB NumFa 1

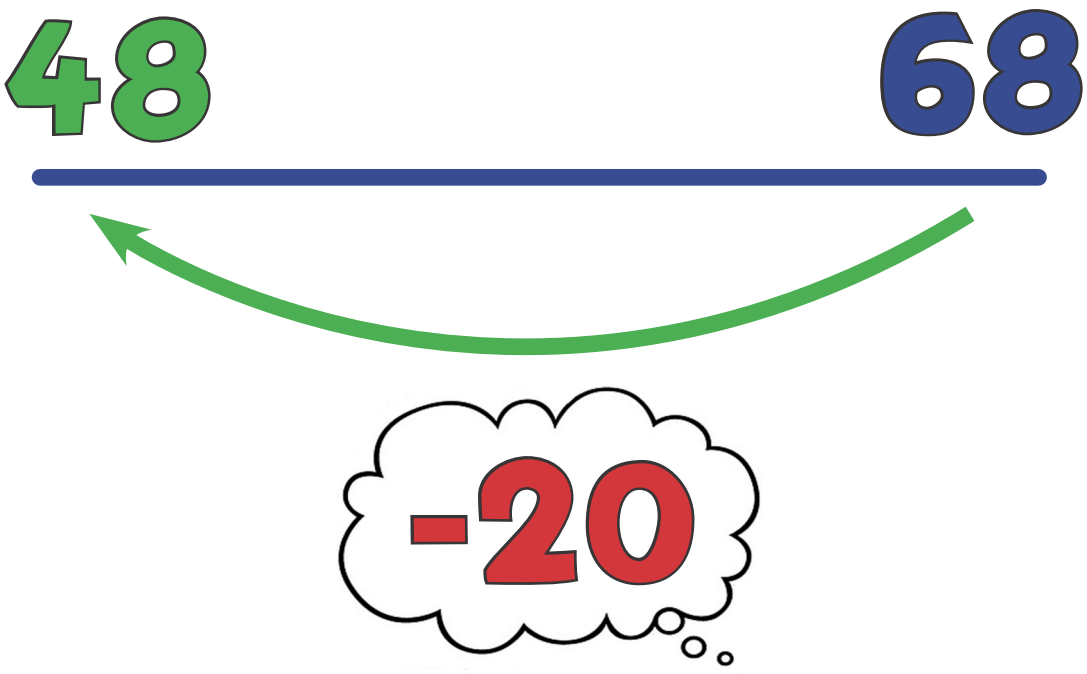
$$15 - 4 = 11$$



MS5a: Counting Back

MC RaPa CoOCoB NumFa 2

$$68 - 20 = 48$$



MS5a: Counting Back

MC RaPa CoOCoB NumFa
3

378 - 50 = 328

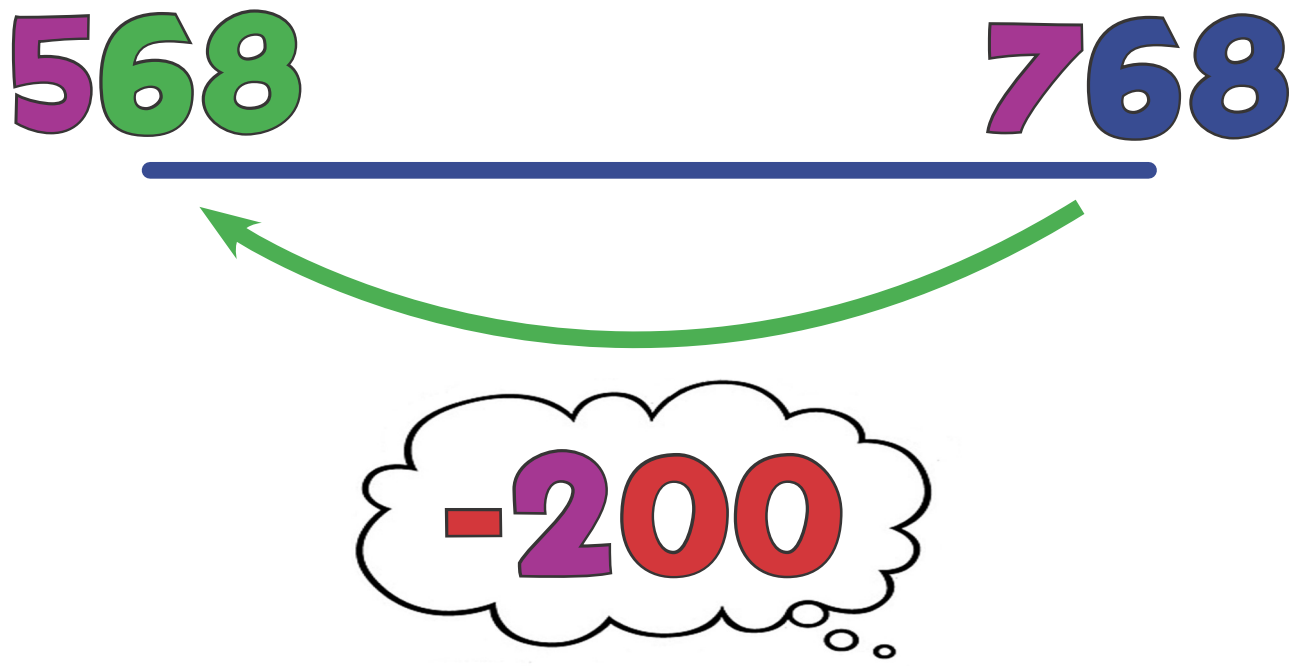
328 378

-50

MS5a: Counting Back

MC RaPa CoOCoB NumFa
4

768 - 200 = 568



MS5a: Counting Back

MC RaPa CoOCoB NumFa
5

7291 - 2000 = 5291

5291 7291

-2000

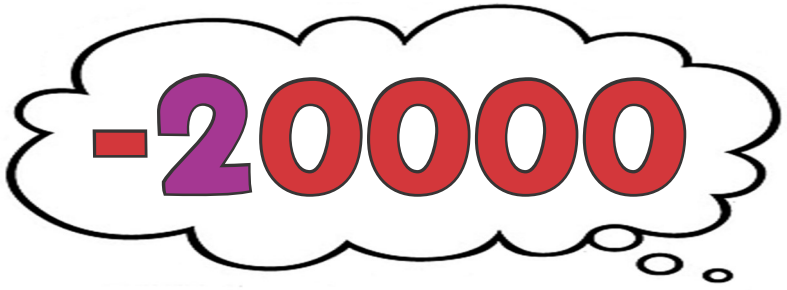
MS5a: Counting Back

MC RaPa CoOCoB NumFa

6

86374 - 20000 = 66374

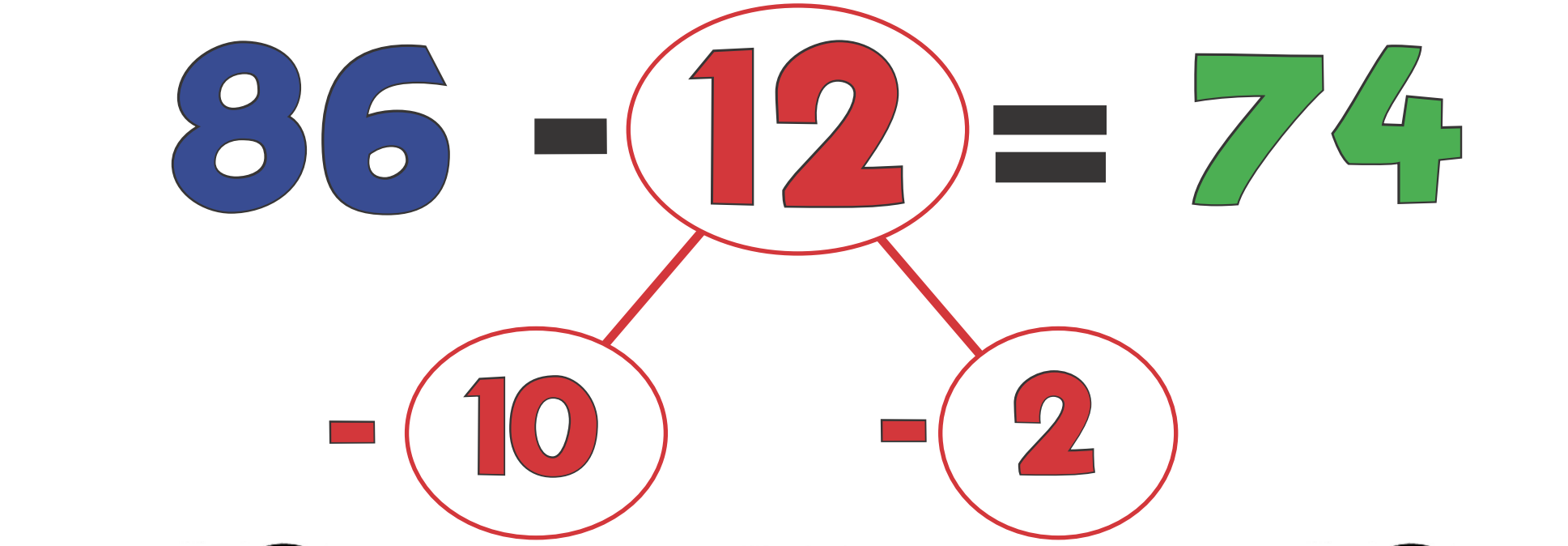
66374 86374



MS5b: Counting Back

MC RaPa CoOCoB NumFa

Jumps

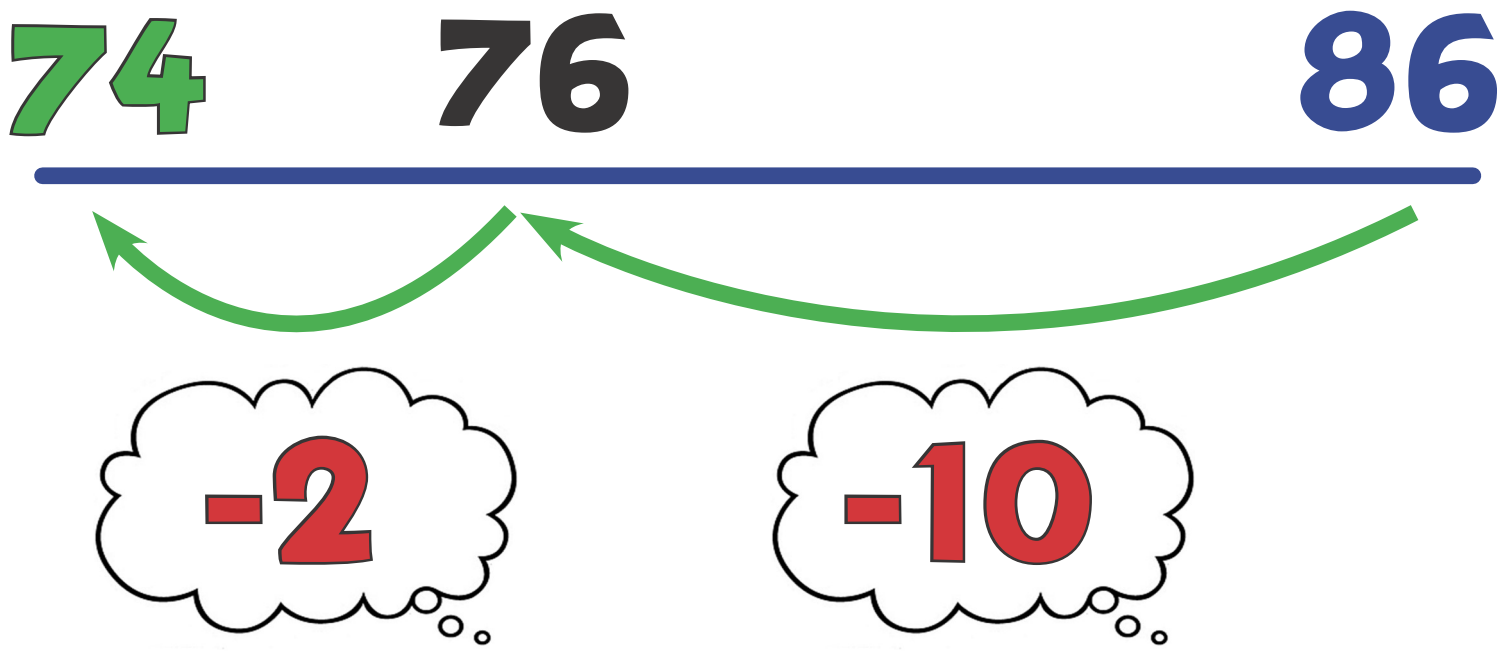


MS5b: Counting Back

MC RaPa CoOCoB NumFa
Visualisation

Jumps

86 - 12 = 74



MS5b: Counting Back

MC RaPa CoOCoB NumFa
2

Jumps

86 - 12 = 74

- 10

- 2

86

76

74

MS5b: Counting Back

MC RaPa CoOCoB NumFa 3

Jumps

89 - 34 = 55

- 30
- 4

89

59

55

MS5b: Counting Back

MC RaPa CoOCoB NumFa 4

Jumps

578 - 45 = 533

- 40

- 5

578

538

533

MS5b: Counting Back

MC RaPa CoOCoB NumFa 5

Jumps

$$8.6 - 4.1 = 4.5$$

$$4.1 = 4 + 0.1$$

$$- 4 \quad - 0.1$$

MS5b: Counting Back

MC RaPa CoOCoB NumFa

6

Jumps

£65.87 - £30.24 = £35.63

- £30
- 24p

MS6: Number Facts

MC RaPa CoOCoB NumFa

$$61 - 41 = 20$$

$$41 + 20 = 61$$

MS6: Number Facts

MC RaPa CoOCoB NumFa
Visualisation

61 - 41 = 20

41 + 20 = 61

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

MS6: Number Facts

MC RaPa CoOCoB NumFa 1

$$19 - 9 = 10$$

$$9 + 10 = 19$$

MS6: Number Facts

MC RaPa CoOCoB NumFa 2

$$61 - 41 = 20$$

$$41 + 20 = 61$$

MS6: Number Facts

MC RaPa CoOCoB NumFa 3

$$123 - 83 = 40$$

$$83 + 40 = 123$$

MS6: Number Facts

MC RaPa CoOCoB NumFa 4

847 - 447 = 400

447 + 400 = 847

MS6: Number Facts

MC RaPa CoOCoB NumFa 5

$1424 - 724 = 700$

$724 + 700 = 1424$

MS6: Number Facts

MC RaPa CoOCoB NumFa 6

$$13.2 - 9.2 = 4$$

$$9.2 + 4 = 13.2$$