Adding and Subtracting Strategies

Equal Additions

We are learning to solve subtraction problems by equal additions that turn one of the numbers into a tidy number

Kevin reasoned that 93 –38 could be calculated like this:

93 – 38 = 95 – 40 = 55

Exercise 1

What to do
1) Use the strategy of equal additions to do these subtractions.
2) Do the problems in your head first
3) Check you are right by writing them down. Show them like the examples above

1) $65 - 37 = \square - \bigcirc = \diamondsuit$ (2) $83 - 39 = \square - \bigcirc = \diamondsuit$

3) $77 - 28 = \square - \bigcirc = \diamondsuit$ (4) $54 - 9 = \square - \bigcirc = \diamondsuit$

5) $65 - 19 = \square - \bigcirc = \diamondsuit$ (6) $55 - 38 = \square - \bigcirc = \diamondsuit$

7) $74 - 56 = \square - \bigcirc = \diamondsuit$ (8) $91 - 78 = \square - \bigcirc = \diamondsuit$

9) $83 - 66 = \square - \bigcirc = \diamondsuit$ (10) $44 - 17 = \square - \bigcirc = \diamondsuit$

11) $73 - 45 = \square - \bigcirc = \diamondsuit$ (12) $94 - 69 = \square - \bigcirc = \diamondsuit$

13) $62 - 27 = \square - \bigcirc = \diamondsuit$ (14) $81 - 49 = \square - \bigcirc = \diamondsuit$

Exercise 2 – Larger Numbers

What to do
1) Use the strategy of equal additions to do these subtractions.
2) Do the problems in your head first
3) Check you are right by writing them down. Show them like the examples above

1) $242 - 197 = \square - \bigcirc = \diamondsuit$ (2) $737 - 699 = \square - \bigcirc = \diamondsuit$

3) $477 - 380 = \square - \bigcirc = \diamondsuit$ (4) $641 - 570 = \square - \bigcirc = \diamondsuit$

5) $963 - 880 = \square - \bigcirc = \diamondsuit$ (6) $436 - 295 = \square - \bigcirc = \diamondsuit$

7) $871 - 399 = \square - \bigcirc = \diamondsuit$ (8) $525 - 290 = \square - \bigcirc = \diamondsuit$

9) $243 - 97 = \square - \bigcirc = \diamondsuit$ (10) $911 - 89 = \square - \bigcirc = \diamondsuit$

11) $378 - 96 = \square - \bigcirc = \diamondsuit$ (12) $717 - 294 = \square - \bigcirc = \diamondsuit$

13) $1908 - 497 = \square - \bigcirc = \diamondsuit$ (14) $2007 - 986 = \square - \bigcirc = \diamondsuit$

Exercise 3 – Decimals

What to do
1) Use the strategy of equal additions to do these subtractions.
2) Do the problems in your head first
3) Check you are right by writing them down. Show them like the examples above

1) $7.4 - 3.8 = \square - \bigcirc = \diamondsuit$ (2) $9.2 - 2.7 = \square - \bigcirc = \diamondsuit$

3) $8.6 - 1.8 = \square - \bigcirc = \diamondsuit$ (4) $4.5 - 0.9 = \square - \bigcirc = \diamondsuit$

5) $5.6 - 2.7 = \square - \bigcirc = \diamondsuit$ (6) $6.5 - 4.6 = \square - \bigcirc = \diamondsuit$

7) $35.3 - 29.6 = \square - \bigcirc = \diamondsuit$ (8) $84.6 - 59.8 = \square - \bigcirc = \diamondsuit$

9) $6.85 - 3.90 = \square - \bigcirc = \diamondsuit$ (10) $8.53 - 2.7 = \square - \bigcirc = \diamondsuit$

11) $9.57 - 6.8 = \square - \bigcirc = \diamondsuit$ (12) $8.66 - 4.98 = \square - \bigcirc = \diamondsuit$

13) $5.67 - 3.95 = \square - \bigcirc = \diamondsuit$ (14) $6.45 - 0.94 = \square - \bigcirc = \diamondsuit$

Exercise 4

What to do
   For these questions, copy out the questions then write down if it is true or false

1) $56 - 38 = 58 - 40$ (2) $65 - 19 = 64 - 20$

3) $88 - 60 = 84 - 56$ (4) $85 - 40 = 87 - 38$

5) $945 - 780 = 965 - 800$ (6) $318 - 170 = 317 - 169$

7) $501 - 300 = 514 - 287$ (8) $375 - 100 = 367 - 92$

9) $7.37 - 3.8 = 7.39 - 4.0$ (10) $4.77 - 2 = 4.63 - 1.86$

11) $97 - 48 = 100 - 45$ (12) $63 - 27 = 60 - 24$

13) $254 - 78 = 260 - 84$ (14) $866 - 76 = 860 - 80$

Exercise 5

What to do
   Replace the box with a number that makes the sentence true.
   Write the sentence in your book.

1) $65 - 37 = \square - 40$ (2) $83 - \square = 82 - 20$

3) $72 - \square = 77 - 60$ (4) $53 - 26 = \square - 30$

5) $883 - 700 = \square - 670$ (6) $\square - 200 = 524 - 185$

7) $\square - 80 = 578 - 85$ (8) $623 - 400 = 615 - \square$

9) $8.66 - 6.0 = 8.46 - \square$ (10) $5.76 - 2.87 = \square - 2.9$

11) $50 - \square = 56 - 38$ (12) $\square - 60 = 94 - 48$

13) $\square - 100 = 345 - 87$ (14) $877 - 88 = 880 - \square$

Exercise 6

What to do
  Fill in the brackets to make the sentence true.
  Each letter stands for *any number*
  Write the sentence in your book.

1) $n - 38 = (\ldots\ldots) - 40$

(2) $94 - (\ldots\ldots) = 90 - n$

3) $81 - (\ldots\ldots) = 86 - y$

(4) $p - 47 = (\ldots\ldots) - 60$

5) $g - 900 = (\ldots\ldots) - 600$

(6) $(\ldots\ldots) - 300 = h - 275$

7) $(\ldots\ldots) - 60 = k - 75$

(8) $23 - f = 16 - (\ldots\ldots)$

9) $8.7 - t = 9.0 - (\ldots\ldots)$

(10) $n - 3.6 = (\ldots\ldots) - 4.0$

11) $50 - (\ldots\ldots) = 56 - d$

(12) $(\ldots\ldots) - 50 = z - 36$

13) $(\ldots\ldots) - 100 = s - 79$

(14) $88 - b = 80 - (\ldots\ldots)$

Exercise 7

What to do
  Fill in the gaps to make the sentence true.
  Each letter stands for *any number*
  Write the sentence in your book.

1) $60 - (\ldots\ldots) = 66 - d$

(2) $94 - (\ldots\ldots) = 100 - x$

3) $32 - (\ldots\ldots) = 40 - y$

(4) $43 - (\ldots\ldots) = 50 - z$

5) $24 - (f - 8) = \ldots\ldots - f$

(6) $50 - (g - 25) = \ldots\ldots - g$

7) $53 - (x - 7) = \ldots\ldots - x$

(8) $7 - (y - 13) = \ldots\ldots - y$

9) $16 - (m - 17) = \ldots\ldots$

(10) $72 - (n - 11) = \ldots\ldots$

11) $56 - (p - 25) = \ldots\ldots$

(12) $23 - (13 - y) = \ldots\ldots$

13) $56 - (16 - d) = \ldots\ldots$

(14) $100 - (50 - x) = \ldots\ldots$

  Write a sentence in your book to explain a simple method for doing these
  problems.

Exercise 8

What to do
Fill in the gaps to make the sentence true.
Each letter stands for *any number*
Write the sentence in your book.

1) $64 - (\ldots\ldots) = 60 - n$

(2) $25 - (\ldots\ldots) = 20 - d$

3) $32 - (\ldots\ldots) = 24 - f$

(4) $43 - (\ldots\ldots) = 50 - g$

5) $24 - (h + 4) = \ldots\ldots - h$

(6) $100 - (p + 25) = \ldots\ldots - p$

7) $34 - (x + 4) = \ldots\ldots - x$

(8) $27 - (y + 13) = \ldots\ldots$

9) $85 - (x + 15) = \ldots\ldots$

(10) $63 - (x + 11) = \ldots\ldots$

11) $36 - (23 + p) = \ldots\ldots$

(12) $50 - (15 + m) = \ldots\ldots$

Write a sentence in your book to explain a simple method for doing these problems.

Equal Additions
Answers

Exercise 1

1) $65 - 37 = 68 - 40 = 28$

(2) $83 - 39 = 84 - 40 = 44$

3) $77 - 28 = 79 - 30 = 49$

(4) $54 - 9 = 55 - 10 = 45$

5) $65 - 19 = 66 - 20 = 46$

(6) $55 - 38 = 57 - 40 = 17$

7) $74 - 56 = 78 - 60 = 18$

(8) $91 - 78 = 93 - 80 = 13$

9) $83 - 66 = 87 - 70 = 17$

(10) $44 - 17 = 47 - 20 = 27$

11) $73 - 45 = 78 - 50 = 28$

(12) $94 - 69 = 95 - 70 = 25$

13) $62 - 27 = 65 - 30 = 35$

(14) $81 - 49 = 82 - 50 = 32$

Exercise 2 – Larger Numbers

1) $242 - 197 = 245 - 200 = 45$

(2) $737 - 699 = 738 - 700 = 38$

3) $477 - 380 = 497 - 400 = 97$

(4) $641 - 570 = 671 - 600 - 71$

5) $963 - 880 = 983 - 900 = 83$

(6) $436 - 295 = 441 - 300 = 141$

7) $871 - 399 = 872 - 400 = 472$

(8) $525 - 290 = 535 - 300 = 235$

9) $243 - 97 = 246 - 100 = 146$

(10) $911 - 89 = 922 - 100 = 822$

11) $378 - 96 = 382 - 100 = 282$

(12) $717 - 294 = 723 - 300 = 423$

13) $1908 - 497 = 1911 - 500 = 1411$

(14) $2007 - 986 = 2021 - 1000 = 1021$

Exercise 3 – Decimals

1) $7.4 - 3.8 = 7.6 - 4 = 3.6$

(2) $9.2 - 2.7 = 9.5 - 3 = 6.5$

3) $8.6 - 1.8 = 8.8 - 2 = 6.8$

(4) $4.5 - 0.9 = 4.6 - 1 = 3.6$

5) $5.6 - 2.7 = 5.9 - 3 = 2.9$

(6) $6.5 - 4.6 = 6.9 - 5 = 1.9$

7) $35.3 - 29.6 = 35.7 - 30 = 5.7$

(8) $84.6 - 59.8 = 84.8 - 60 = 24.8$

9) $6.85 - 3.90 = 6.95 - 4 = 2.95$

(10) $8.53 - 2.7 = 8.83 - 3 = 5.83$

11) $9.57 - 6.8 = 9.77 - 7 = 2.77$

(12) $8.66 - 4.98 = 8.68 - 5 = 3.68$

13) $5.67 - 3.95 = 5.72 - 4 = 1.72$

(14) $6.45 - 0.94 = 6.51 - 1 = 5.51$

Exercise 4

1)	True	(2)	False	(3)	True	(4)	False
5)	True	(6)	True	(7)	False	(8)	True
9)	False	(10)	True	(11)	False	(12)	True
13)	True	(14)	False				

Exercise 5

1) $65 - 37 = \mathbf{68} - 40$
3) $72 - \mathbf{55} = 77 - 60$
5) $883 - 700 = \mathbf{853} - 670$
7) $\mathbf{573} - 80 = 578 - 85$
9) $8.66 - 6.0 = 8.46 - \mathbf{5.8}$
11) $50 - \mathbf{32} = 56 - 38$
13) $\mathbf{358} - 100 = 345 - 87$

(2) $83 - \mathbf{21} = 82 - 20$
(4) $53 - 26 = \mathbf{57} - 30$
(6) $\mathbf{539} - 200 = 524 - 185$
(8) $623 - 400 = 615 - \mathbf{392}$
(10) $5.76 - 2.87 = \mathbf{5.79} - 2.9$
(12) $\mathbf{106} - 60 = 94 - 48$
(14) $877 - 88 = 880 - \mathbf{91}$

Exercise 6

1) $n - 38 = (\mathbf{n + 2}) - 40$
3) $81 - (\mathbf{y - 5}) = 86 - y$
5) $g - 900 = (\mathbf{g - 300}) - 600$
7) $(\mathbf{k - 15}) - 60 = k - 75$
9) $8.7 - t = 9.0 - (\mathbf{t + 0.3})$
11) $50 - (\mathbf{d - 6}) = 56 - d$
13) $(\mathbf{s + 21}) - 100 = s - 79$

(2) $94 - (\mathbf{n + 4}) = 90 - n$
(4) $p - 47 = (\mathbf{p + 13}) - 60$
(6) $(\mathbf{h + 25}) - 300 = h - 275$
(8) $23 - f = 16 - (\mathbf{f - 7})$
(10) $n - 3.6 = (\mathbf{n + 0.4}) - 4.0$
(12) $(\mathbf{z + 14}) - 50 = z - 36$
(14) $88 - b = 80 - (\mathbf{b - 8})$

Exercise 7

1) $60 - (\mathbf{d - 6}) = 66 - d$
3) $32 - (\mathbf{y - 8}) = 40 - y$
5) $24 - (f - 8) = \mathbf{32} - f$
7) $53 - (x - 7) = \mathbf{60} - x$
9) $16 - (m - 17) = \mathbf{33 - m}$
11) $56 - (p - 25) = \mathbf{81 - p}$
13) $56 - (16 - d) = \mathbf{40 + d}$

(2) $94 - (\mathbf{x - 6}) = 100 - x$
(4) $43 - (\mathbf{z - 7}) = 50 - z$
(6) $50 - (g - 25) = \mathbf{75} - g$
(8) $7 - (y - 13) = \mathbf{20} - y$
(10) $72 - (n - 11) = \mathbf{83 - n}$
(12) $23 - (13 - y) = \mathbf{10 + y}$
(14) $100 - (50 - x) = \mathbf{50 + x}$

Exercise 8

1) $64 - (\mathbf{n + 4}) = 60 - n$
3) $32 - (\mathbf{f + 8}) = 24 - f$
5) $24 - (h + 4) = \mathbf{20} - h$
7) $34 - (x + 4) = \mathbf{30} - x$
9) $85 - (x + 15) = \mathbf{70 - x}$
11) $36 - (23 + p) = \mathbf{13 - p}$

(2) $25 - (\mathbf{d + 5}) = 20 - d$
(4) $43 - (\mathbf{g - 7}) = 50 - g$
(6) $100 - (p + 25) = \mathbf{75} - p$
(8) $27 - (y + 13) = \mathbf{14 - y}$
(10) $63 - (x + 11) = \mathbf{52 - x}$
(12) $50 - (15 + m) = \mathbf{35 - m}$