

Foundation Mathematical Strategies

Friends of 5

Adding two numbers to equal five

Friends of 10

Adding two numbers to equal ten

Eg $3+7 = 10$

$4+6 = 10$

$10-1 = 9$

$10-2=8$

Use this knowledge to know 'Friends of 20', then 'Friends of 100',

Counting On

Using the largest number, count on to add the smaller number.

Eg $15+25 =$ start counting at 25 and add 15 = 40

Counting Back

Starting at the large number, count back to subtract a number.

Eg $19-7=$ start counting back 7 from 19. = 12

Counting Back (using Counting Up)

Starting with the smaller number, count up to the larger number to find the difference.

Eg $29-22=$ start counting up from 22 and stop on 29. = 7

Doubling

Doubling a number

Eg $8+8 = 16$

$20+20 = 40$

Near Doubles

Using the doubling strategy when two numbers are near equals.

Eg $25+26=$ $25+25=50$ $+1(\text{from } 26) = 51$

Halves

Using knowledge of doubles to subtract.

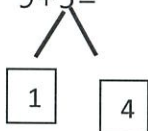
Eg $22-11=$ $11+11=22$ so $22-11=11$

$80-40=$ $4+4=8$ so $40+40=80$ so $80-40=40$

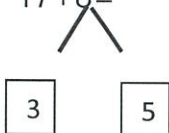
Bridging to Ten

Split the number so you can jump to the nearest ten then add/subtract the remaining number.

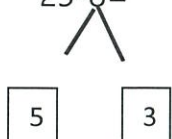
Eg $9+5=$ $9+1=10$ $+4=14$



$17+8=$ $17+3=20$ $+5=25$



$25-8=$ $25-5=20$ $-3=17$



Related Facts

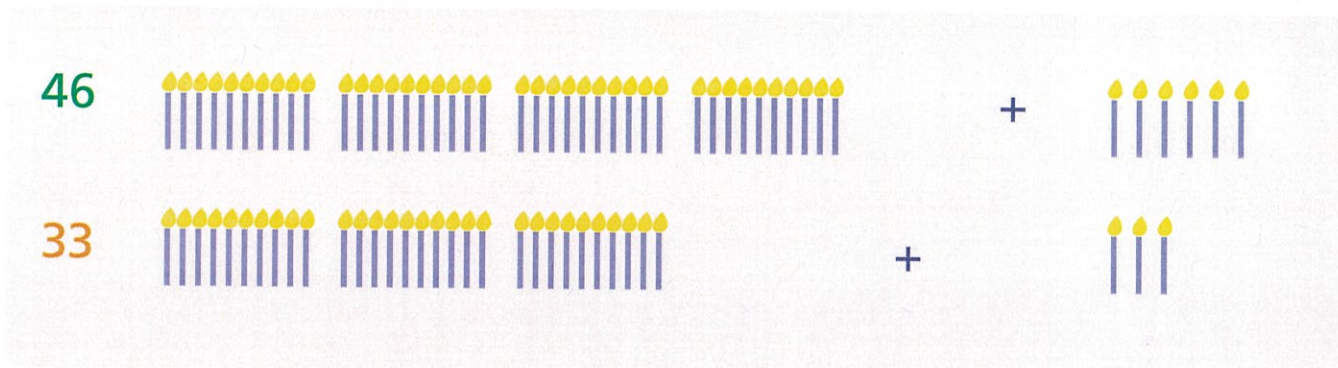
Using the knowledge of number facts to help solve questions.

Eg $9-4=5$ so $9-5=4$



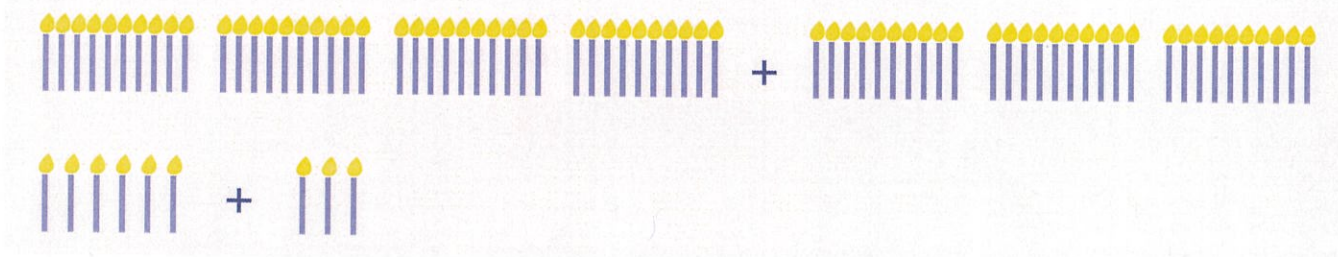
Split strategy

Numbers are split into tens and ones. For example, 46 becomes four tens (40) and six ones (6), and 33 is three tens (30) and three ones (3).



Addition

This makes it easier to add the tens and the ones ($40 + 30 + 6 + 3$)



On paper, you would work it out this way:

$$\begin{array}{r}
 46 \quad + \quad 33 \\
 \swarrow \quad \searrow \quad \swarrow \quad \searrow \\
 = (40 + 6) + (30 + 3) \\
 = 40 + 30 + 6 + 3 \\
 = 70 + 9 \\
 = 79
 \end{array}$$



Addition

Jump strategy (another way to add)

Start from the **largest number** and **jump forward** from it to get the **final answer**.

Using the jump strategy on a hundred chart

$$46 + 33 = 79$$

0	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

could be done ...

$$46 + 10 + 10 + 10 + 1 + 1 + 1$$

start

answer

0	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

or could be done ...

$$46 + 30 + 3$$

start

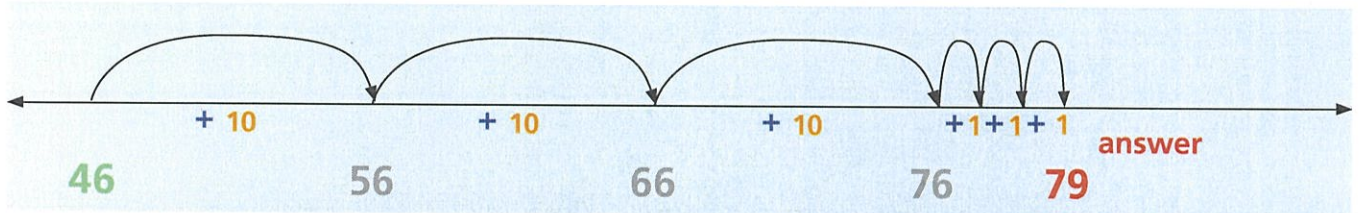
answer



Using the jump strategy on an empty number line

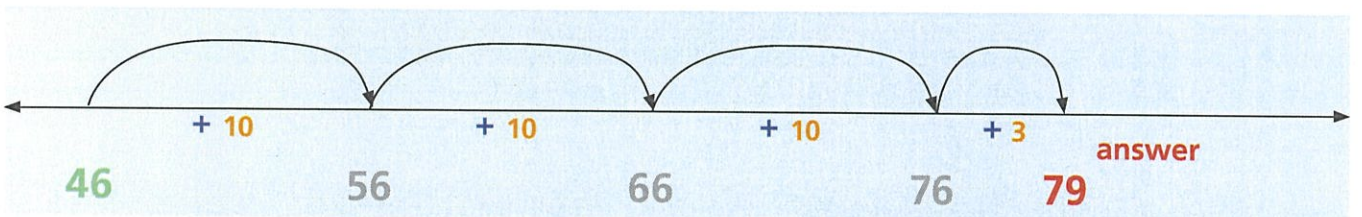
$$46 + 33 = 79$$

- could be done ... $46 + 10 + 10 + 10 + 1 + 1 + 1$



Students record the jumps they make and where they land on the line until they get to the answer.

- or could be done ... $46 + 10 + 10 + 10 + 3$



There are many ways to get the same answer.



Subtraction

Jump strategy (another way to subtract)

Children may start from the **largest number** and **jump back** from it to get the **final answer**.

Using the jump strategy on a hundred chart

$$87 - 34 = 53$$

0	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

▪ could be done...

$$87 - 10 - 10 - 10 - 1 - 1 - 1 - 1$$

answer

start

0	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

▪ or could be done...

$$87 - 30 - 4$$

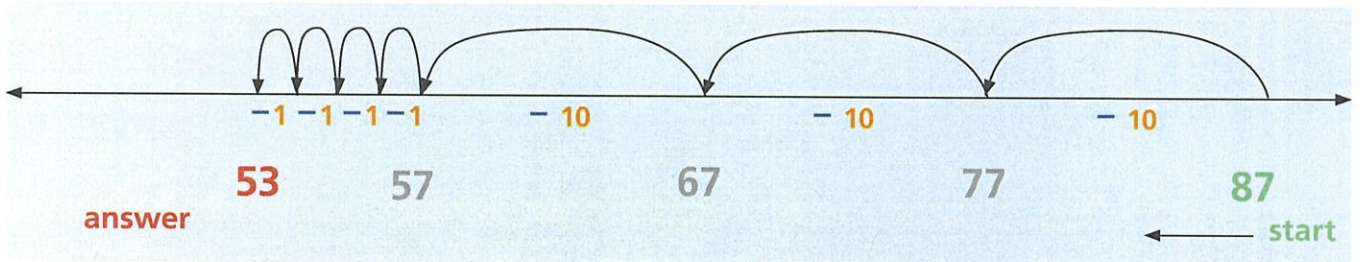
answer

start

Using the jump strategy on an empty number line

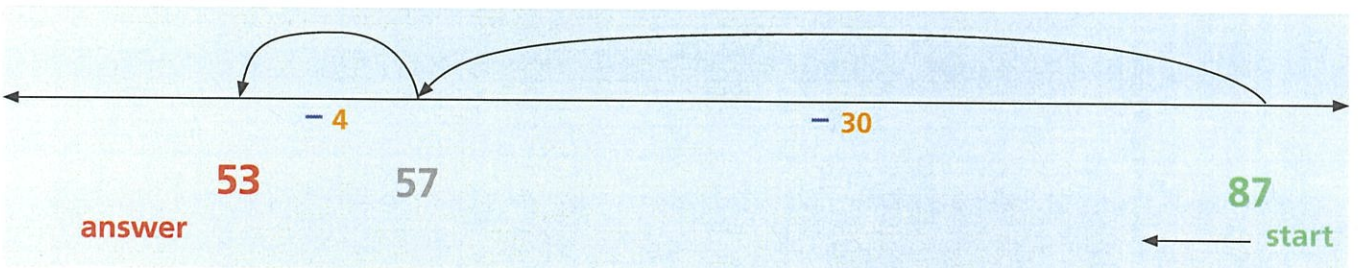
$$87 - 34 = 53$$

- could be done ... $87 - 10 - 10 - 10 - 1 - 1 - 1 - 1$



Students record the jumps they make and where they land on the line until they get to the answer.

- or could be done ... $87 - 30 - 4$



There are many ways to get the same answer.