

# Subtraction mental strategies – addition and subtraction

Knowing one addition fact means you also know two related subtraction facts.  
Because  $7 + 3 = 10$  you know that  $10 - 7 = 3$  and  $10 - 3 = 7$

1 Make a group of facts for each pair of numbers. The first one has been done for you.

a

15	35
$15 + 35 = 50$	
$50 - 15 = 35$	
$50 - 35 = 15$	

b

45	55

c

73	27

d

105	15

e

120	10

f

135	10

2 Complete each number trail:

a

150	$\xrightarrow{+10}$	<input type="text"/>	$\xrightarrow{-15}$	<input type="text"/>	$\xrightarrow{+50}$	<input type="text"/>	$\xrightarrow{+30}$	<input type="text"/>
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b

200	$\xrightarrow{-50}$	<input type="text"/>	$\xrightarrow{+25}$	<input type="text"/>	$\xrightarrow{-30}$	<input type="text"/>	$\xrightarrow{+55}$	<input type="text"/>
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c

99	$\xrightarrow{+11}$	<input type="text"/>	$\xrightarrow{+50}$	<input type="text"/>	$\xrightarrow{+50}$	<input type="text"/>	$\xrightarrow{-20}$	<input type="text"/>
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d

76	$\xrightarrow{+24}$	<input type="text"/>	$\xrightarrow{+35}$	<input type="text"/>	$\xrightarrow{+15}$	<input type="text"/>	$\xrightarrow{-25}$	<input type="text"/>
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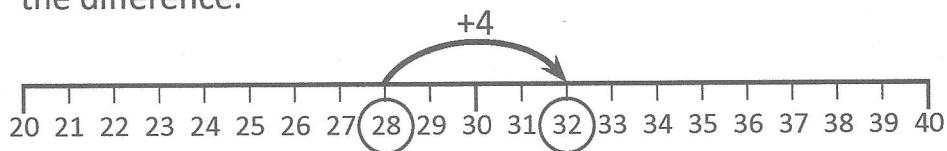
# Subtraction mental strategies – subtraction strategy review

Look for patterns:  $6 - 2 = 4$  so  $60 - 20 = 40$  and  $600 - 200 = 400$

$72 - 9 = 63$  so  $62 - 9 = 53$  and  $52 - 9 = 43$

Count on:

When numbers are close together, you can count on to find the difference.



Complements:  $35 + 65 = 100$  so  $100 - 35 = 65$

$12 + 8 = 20$  so  $20 - 8 = 12$

Near doubles: See:  $15 - 7$  Think:  $(14 - 7) + 1$

- 1 This hundred grid makes it easier to see subtraction patterns. Use it to complete the sets.

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

Set 1

$$\begin{array}{l} 17 - 9 = \square \\ 27 - 9 = \square \\ 37 - 9 = \square \\ 47 - 9 = \square \\ 57 - 9 = \square \\ 67 - 9 = \square \end{array}$$

Set 2

$$\begin{array}{l} 21 - 6 = \square \\ 31 - 6 = \square \\ 41 - 6 = \square \\ 51 - 6 = \square \\ 61 - 6 = \square \\ 71 - 6 = \square \end{array}$$

- 2 Extend these subtractions according to the patterns:

a	$9 - 6 =$	$90 - 60 =$	$900 - 600 =$
b	$14 - 8 =$	$140 - 80 =$	$1\,400 - 800 =$
c	$24 - 14 =$		
d	$69 - 32 =$		

# Subtraction mental strategies – subtraction strategy review

3 Use counting on to complete these:

a  $32 - 29 = \square$

b  $33 - 28 = \square$

c  $34 - 27 = \square$

d  $71 - 68 = \square$

e  $82 - 76 = \square$

f  $73 - 69 = \square$

g  $83 - 77 = \square$

h  $112 - 109 = \square$

i  $201 - 196 = \square$

4 Complete these function tables using counting on:

a

In	Rule	Out
120	- 118	
123		
126		
124		

b

In	Rule	Out
102	- 96	
104		
108		
101		

c

In	Rule	Out
87	- 78	
81		
85		
83		

5 Complete this cross number puzzle. Using complements to 100 will help.

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

Across

1  $100 - 80 = \square$

2  $100 - 89 = \square$

3  $100 - 5 = \square$

4  $100 - 28 = \square$

5  $100 - 22 = \square$

7  $100 - 64 = \square$

8  $100 - 49 = \square$

9  $100 - 61 = \square$

10  $100 - 52 = \square$

11  $100 - 66 = \square$

12  $100 - 75 = \square$

Down

1  $100 - 78 = \square$

2  $100 - 88 = \square$

3  $100 - 2 = \square$

4  $100 - 24 = \square$

5  $100 - 29 = \square$

6  $100 - 11 = \square$

7  $100 - 62 = \square$

8  $100 - 46 = \square$

9  $100 - 65 = \square$

# Subtraction mental strategies – subtraction strategy review

6 Use your knowledge of doubles and near doubles to complete these subtraction tables. The first one in each has been done for you.

a

See	Think
$19 - 9 = \square$	$(18 - 9) + 1$
$201 - 100 = \square$	
$141 - 70 = \square$	
$71 - 35 = \square$	

b

See	Think
$15 - 8 = \square$	$(16 - 8) - 1$
$31 - 16 = \square$	
$99 - 50 = \square$	
$87 - 44 = \square$	

c

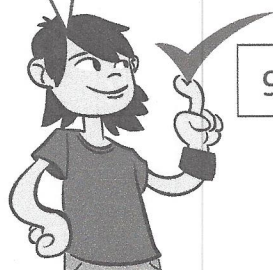
See	Think
$26 - 12 = \square$	$(24 - 12) + 2$
$52 - 25 = \square$	
$68 - 33 = \square$	
$104 - 51 = \square$	

d

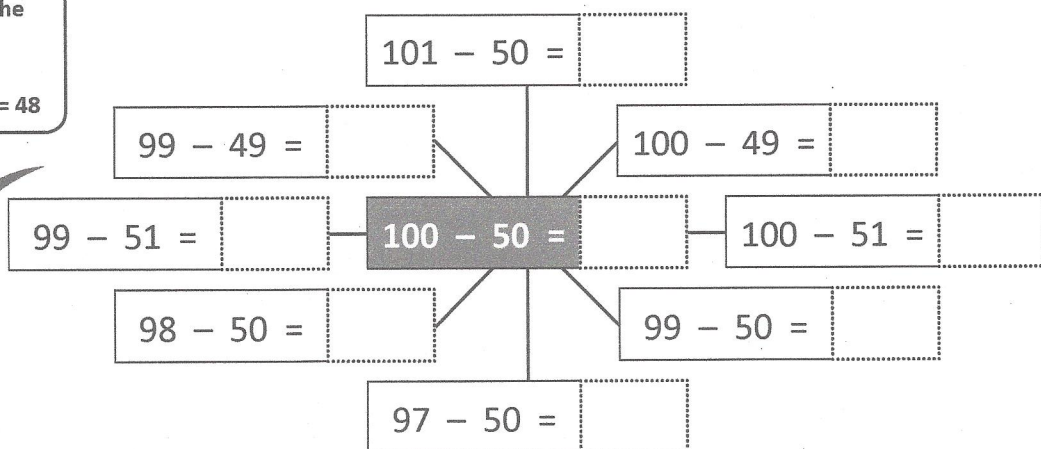
See	Think
$24 - 13 = \square$	$(26 - 13) - 2$
$48 - 25 = \square$	
$70 - 36 = \square$	
$78 - 40 = \square$	

7 Complete this near double web, which is based on the subtraction double in the centre. Start in the centre and work clockwise:

Start by looking at the first number.  
For  $99 - 51$ , think  $100 - 50$  subtract  $2 = 48$



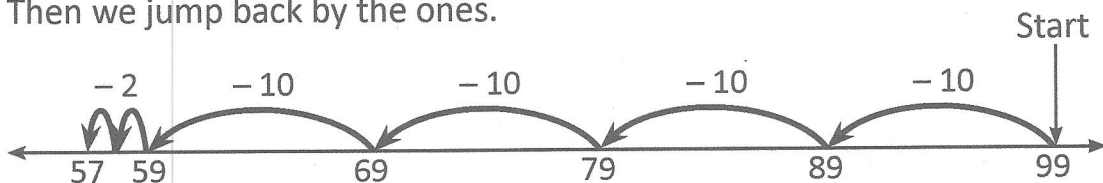
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# Subtraction mental strategies – jump strategy

When we subtract, we can use the jump strategy to help us. Look at  $99 - 42$ :

- 1 First we jump back by the tens.
- 2 Then we jump back by the ones.



$$99 - 42 = 57$$

1 Solve these using the jump strategy:

a  $125 - 42 =$



b  $168 - 36 =$



c  $335 - 54 =$



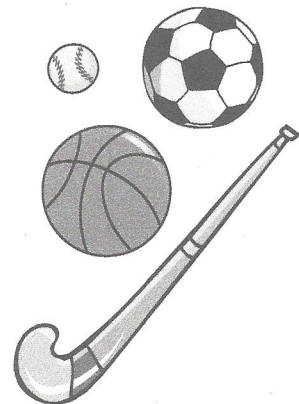
d  $245 - 45 =$



## Subtraction mental strategies – jump strategy

- 2 It's inventory time at the sporting goods store. Use the jump strategy to work out how many items of each type have been sold.

Item	Started with	Amount left	Sold
Baseballs	254	45	
Soccer balls	186	58	
Hockey sticks	145	65	
Basketballs	165	34	



a Baseballs

$$\square - \square = \square$$



b Soccer balls

$$\square - \square = \square$$



c Hockey sticks

$$\square - \square = \square$$



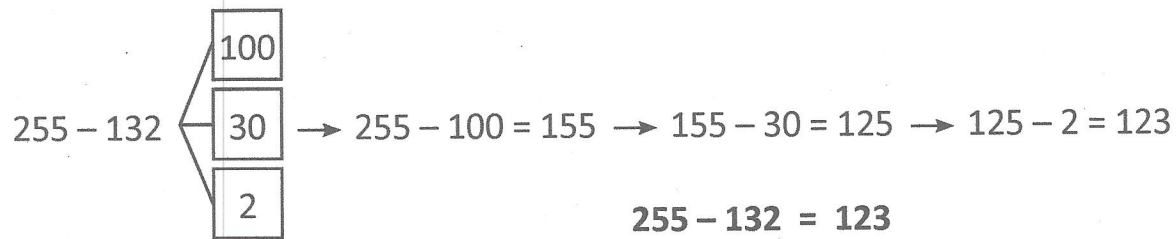
d Basketballs

$$\square - \square = \square$$

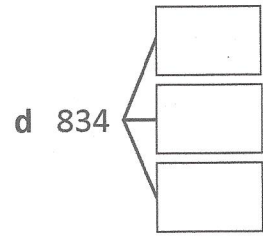
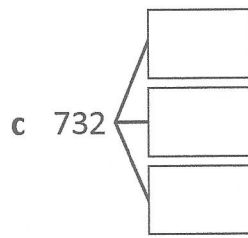
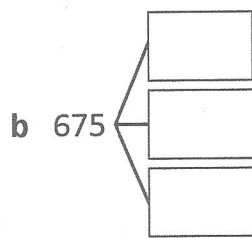
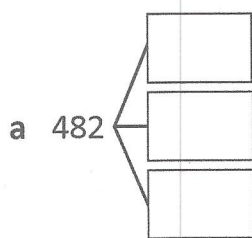


# Subtraction mental strategies – split strategy

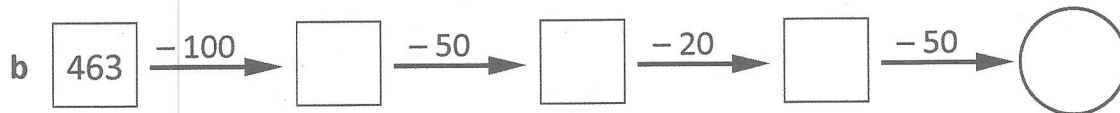
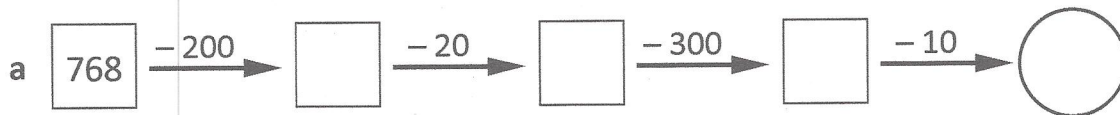
When subtracting large numbers in our heads it can be easier to split the number to be subtracted into parts and work with each part separately.



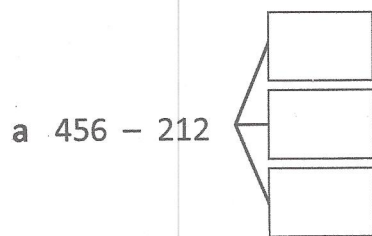
## 1 Practise splitting numbers into hundreds, tens and ones:



## 2 Complete these subtraction trails:

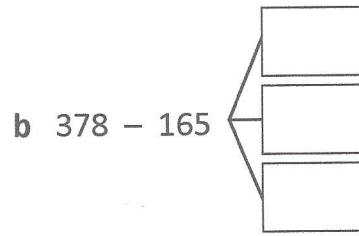


## 3 Use the split strategy with these problems:



$$\begin{array}{r}
 456 - 200 = \underline{\hspace{2cm}} \\
 \underline{\hspace{2cm}} - 10 = \underline{\hspace{2cm}} \\
 \underline{\hspace{2cm}} - 2 = \underline{\hspace{2cm}}
 \end{array}$$

So,  $456 - 212 = \underline{\hspace{2cm}}$



$$\begin{array}{r}
 378 - 100 = \underline{\hspace{2cm}} \\
 \underline{\hspace{2cm}} - 60 = \underline{\hspace{2cm}} \\
 \underline{\hspace{2cm}} - 5 = \underline{\hspace{2cm}}
 \end{array}$$

So,  $378 - 165 = \underline{\hspace{2cm}}$

# Subtraction mental strategies – split strategy

4 Try these subtractions with the split strategy:

a  $479 - 45 =$  \_\_\_\_\_

b  $834 - 21 =$  \_\_\_\_\_

So,  $479 - 45 =$  \_\_\_\_\_

So,  $834 - 21 =$  \_\_\_\_\_

c  $637 - 312 =$  \_\_\_\_\_

d  $567 - 232 =$  \_\_\_\_\_

So,  $637 - 312 =$  \_\_\_\_\_

So,  $567 - 232 =$  \_\_\_\_\_

5 Solve these pyramid puzzles using any strategy you like. The two bricks add to support the number on top. For example in puzzle a,  $22 + 23 = 45$ .

