

Multiplication TO x TO using the expanded written method

Use the expanded written method of long multiplication to calculate TO x TO

Estimate and check the answer to a calculation



For each question, multiply each of the numbers on the yellow leaves by the number on the green leaf at the top.

a

x 9

8, 30, 6, 7, 40, 50

b

x 7

20, 6, 70, 3, 90, 8

c

x 6

30, 50, 8, 4, 70, 6

1 Approximate the answer to each calculation.

- | | | |
|-----------|-----------|-----------|
| a 46 x 38 | b 72 x 39 | c 58 x 56 |
| d 64 x 83 | e 67 x 49 | f 96 x 26 |
| g 88 x 38 | h 74 x 68 | i 56 x 93 |

Example
 $63 \times 38 \rightarrow 60 \times 40 = 2400$



2 Use the expanded written method to work out the answers to the calculations in Question 1. Choose which method is easiest for you.

Example

Th	H	T	O
		6	3
x		3	8
	5	0 ²	4
	(63 x 8)		
1	8	9	0
	(63 x 30)		
2	3	9	4
1			

Th	H	T	O
		6	3
x		3	8
1	8	9	0
	(63 x 30)		
	5	0 ²	4
	(63 x 8)		
2	3	9	4
1			

Challenge
3

Ali tried to work out the answer to 37×24 on his calculator but he found that the 7 key on the calculator was broken. He used these two methods to find his answer:

You will need:
 • calculator

$36 \times 24 = 864$
 add $1 \times 24 = 24$
 so $864 + 24 = 888$

$38 \times 24 = 912$
 subtract $1 \times 24 = 24$
 so $912 - 24 = 888$



The 7 key is still broken. Explore methods of finding the answer to the following calculations using other keys on the calculator.

Record your methods.

- | | | |
|--------------------|--------------------|--------------------|
| a 67×58 | b 45×27 | c 77×38 |
| d 73×47 | e 97×57 | f 37×37 |
| g 77×77 | h 397×965 | i 428×768 |
| j 647×321 | k 274×83 | l 175×175 |

