Matrix method of multiplication

123 x 456 =

×	400	50	6
100	40,000	5000	600
20	8000	1000	120
3	1200	150	18

=

40,000
8000
1200
5000
1000
150
600
120
18

56,088

Multiply decimals without confusion by firstly converting to integers

e.g. 0.0123 x 0.456

= $123 \times 10^{-4} \times 456 \times 10^{-3}$
= $123 \times 456 \times 10^{-7}$

Use matrix method to find 123 x 456 = 56,088

Answer is therefore 56,088 x 10^{-7} = **0.0056088**

***Or* just take care with the decimal point and use the matrix method as before**

Link to algebra

$$(x+1)(x+2) =$$

×	x	2
x	x^2	$2x$
1	x	2

$$= x^2 + 3x + 2$$

0.15 x 17.2 =

×	10	7	0.2
0.1	1	0.7	0.02
0.05	0.5	0.35	0.01

=

1.00
0.70
0.02
0.50
0.35
0.01

2.58

$$(2x+y+1)(x-y+2) =$$

×	x	$-y$	2
$2x$	$2x^2$	$-2xy$	$4x$
y	xy	$-y^2$	$2y$
1	x	$-y$	2

$$= 2x^2 - xy + 5x - y^2 + y + 2$$

$$(x+1)(x+2)(x+3) = (x^2+3x+2)(x+3) =$$

×	x	3
x^2	x^3	$3x^2$
$3x$	$3x^2$	$9x$
2	$2x$	6

$$= x^3 + 6x^2 + 11x + 6$$