

Formal methods: multiply integers

1 a) Complete all three methods of working out 293×7

Method 1

x	200	90	3
7			

Method 2

		2	9	3	
	x			7	

Method 3

		2	9	3	
		2	9	3	
		2	9	3	
		2	9	3	
		2	9	3	
		2	9	3	
		2	9	3	
	+	2	9	3	

b) Which method do you prefer? Explain why.

c) Which method is not appropriate for 85×27 ?

2 Use a formal method to work out the multiplications.

a) $24 \times 3 =$

c) $157 \text{ kg} \times 8 =$

b) $217 \times 5 =$

d) $\text{£}1,175 \times 6 =$

3 Mo uses counters to work out 32×14

x	10	10	10	1	1
10	100	100	100	10	10
1	10	10	10	1	1
1	10	10	10	1	1
1	10	10	10	1	1
1	10	10	10	1	1

Complete the calculation.

$32 \times 14 =$

4 a) Find and circle the mistake in this calculation.

x	300	20	6
40	1,200	800	240
7	2,100	140	42

$1,200 + 2,100 + 800 + 140 + 240 + 42 = 4,522$

b) Work out 326×47



5 Complete the methods for these multiplications.

a) $48 \times 32 =$

x	40	8
30	1,200	
2		

b) $137 \times 26 =$

x	100	30	7
20	2,000		
6			

6 Use column multiplication to work out these calculations.

a) $42 \times 53 =$

			4	2	
	x		5	3	
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c) $209 \times 72 =$

b) $431 \times 26 =$

		4	3	1	
	x		2	6	
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d) $293 \times 46 =$

e) $815 \times 14 =$

f) $687 \times 263 =$

7 a) Use place value to explain the mistake in the calculation.

		7	1	8	
	x		2	4	
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2	8	₃ 7	2		
1	4	₁ 3	6		
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4	3	0	8		
1	1				

b) What would you do differently?

