

Bronze

1a. 11×23 (253) < 12×22 (264)

2a. False, the correct answer is 192.

3a.

			2	7
x			2	1
<hr/>				
				7
			2	0
		1	4	0
		4	0	0
<hr/>				
		5	6	7

(1 x 7)
(1 x 20)
(20 x 7)
(20 x 20)

1b. Various answers, for example:

$32 \times 14 = 448$; $41 \times 32 = 1,312$;

$13 \times 42 = 546$

2b. Various answers, for example:

16; because $22 \times 16 = 352$

3b. No, because she has worked out that

$10 \times 3 = 3$. The correct answer is 30, making the final answer 391.

Silver

4a. 12×38 (456) < 14×34 (476)

5a. False, the correct answer is 1,012

6a.

			4	3
x			3	5
<hr/>				
		2	1	5
	1	2	9	0
<hr/>				
	1	5	0	5
<hr/>				
		1		

(5 x 43)
(30 x 43)

4b. Various answers, for example:

$36 \times 48 = 1,728$; $64 \times 38 = 2,432$;

$43 \times 68 = 2,924$; $63 \times 48 = 3,024$

5b. The number could be 15 or 17.

$41 \times 15 = 615$ or $41 \times 17 = 697$

6b. No. May has not written down the exchange when adding the tens in the answer. It should be 1,204.

Gold

7a. Various answers, for example:

32×75 (2,400) < 34×73 (2,482)

8a. False, the digits 2 and 3 would correctly complete the calculation.

			7	2
x			3	5
<hr/>				
		3	6	0
	2	1	6	0
<hr/>				
	2	5	2	0
<hr/>				
		1		

7b.

			9	5
x			3	7
<hr/>				
		6	6	5
	2	8	5	0
<hr/>				
	3	5	1	5
<hr/>				
		1		

9a.

			6	8
x			4	3
<hr/>				
		2	0	4
	2	7	2	0
<hr/>				
	2	9	2	4
<hr/>				

8b. Various answers, for example:

$18 \times 21 = 378$

9b. Jayvion is correct, because the highest 2-digit number he can make is 99, which when multiplied by 89 gives the answer 8,811 which is less than 9,000.

Challenge

1. Complete the calculation using the digit cards below. You may use each digit more than once.



x			
<hr/>			
			5
			0
<hr/>			
		8	

Various answers, for example: $15 \times 39 = 585$; $45 \times 13 = 585$

Investigate the options if the answer were a 4-digit number.

Various answers, for example: $35 \times 91 = 3,185$; $45 \times 44 = 1,980$

2. You and your partner each need a grid, as below. Take turns to roll a dice and place the digit you roll on a calculation grid. You may place the digit on your calculation grid or your partner's.

Once you each have two 2-digit numbers on your grid, calculate your answers. Whoever has the biggest number, wins.

x				
<hr/>				
<hr/>				

x				
<hr/>				
<hr/>				

Play again, this time playing to create the smallest number. Try to be strategic!

Various outcomes, for example:

Pupils may discuss their strategies, such as placing a 1 in their partner's tens column if playing for the largest number.