20.3.23

MPI: using short multiplication for 3 digit x 1 digit calculations.

a)

Hundreds	Tens	Ones
100 100	10 10 10	1 1 1
100 100	10 10 10	1 1 1
100 100	10 10 10	1 1 1

			H	T	O	
			2	3	3	
	×				3	

'Write these as short multiplication calculations.'

232×3 2×413 3×321 2×331

'Complete the calculations.'

$$\begin{array}{r} 212 \\ \times \quad 4 \\ \hline \\ \hline \end{array} \qquad \begin{array}{r} 424 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \_01 \\ \times \quad 2 \\ \hline 402 \end{array} \qquad \begin{array}{r} 1\_0 \\ \times \quad 3 \\ \hline 390 \end{array} \qquad \begin{array}{r} 10\_ \\ \times \quad 2 \\ \hline 206 \end{array}$$

Challenge

When I multiply a 3 digit by a 1 digit number, the largest digits I can multiply before I have to regroup are:

222 x 3

Do you agree or disagree with Amir?

Use the space below to journal your thoughts and

Challenge

When I multiply a 3 digit by a 1 digit number, the largest digits I can multiply before I have to regroup are:

222 x 3

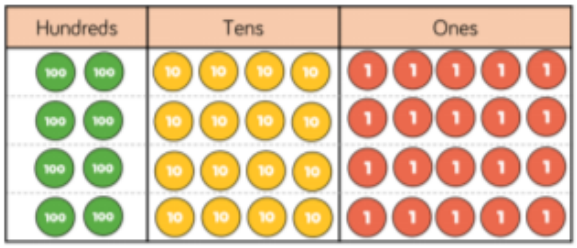
Do you agree or disagree with Amir?

Use the space below to journal your thoughts and prove it!

24.3.23

MPI: using short multiplication to multiply 3 digit by 1 digit numbers with regrouping.

A school has 4 house teams.
There are 245 children in each house team.
How many children are there altogether?



	H	T	O
	2	4	5
×			4

'Use short multiplication to do these calculations.'

446×4 8×787

'Complete the calculations.'

$$\begin{array}{r} 360 \\ \times \quad 7 \\ \hline \end{array} \qquad \begin{array}{r} 608 \\ \times \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} 342 \\ \times \quad 6 \\ \hline \end{array}$$

Spot the mistake

Alex and Dexter have both completed the same multiplication.

Alex

	H	T	O
	2	3	4
×			6
1	2	0	4
	2	2	

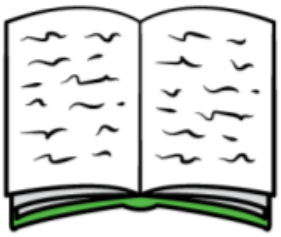
Dexter

	H	T	O
	2	3	4
×			6
1	4	0	4
	2	2	

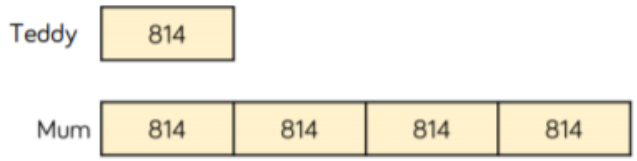
Who has the correct answer?
What mistake has been made by one of the children?

Challenge

Teddy and his mum were having a reading competition.
In one month, Teddy read 814 pages.



His mum read 4 times as many pages as Teddy.
How many pages did they read altogether?
How many fewer pages did Teddy read?
Use the bar model to help.



'Without completing the calculations, which of the following involve:

- *regrouping of the hundreds?*
- *regrouping of the tens?*
- *regrouping of the ones?'*

$$\begin{array}{r} 426 \\ \times\ \ 2 \\ \hline \end{array} \qquad \begin{array}{r} 423 \\ \times\ \ 3 \\ \hline \end{array}$$

$$\begin{array}{r} 462 \\ \times\ \ 2 \\ \hline \end{array} \qquad \begin{array}{r} 423 \\ \times\ \ 5 \\ \hline \end{array}$$

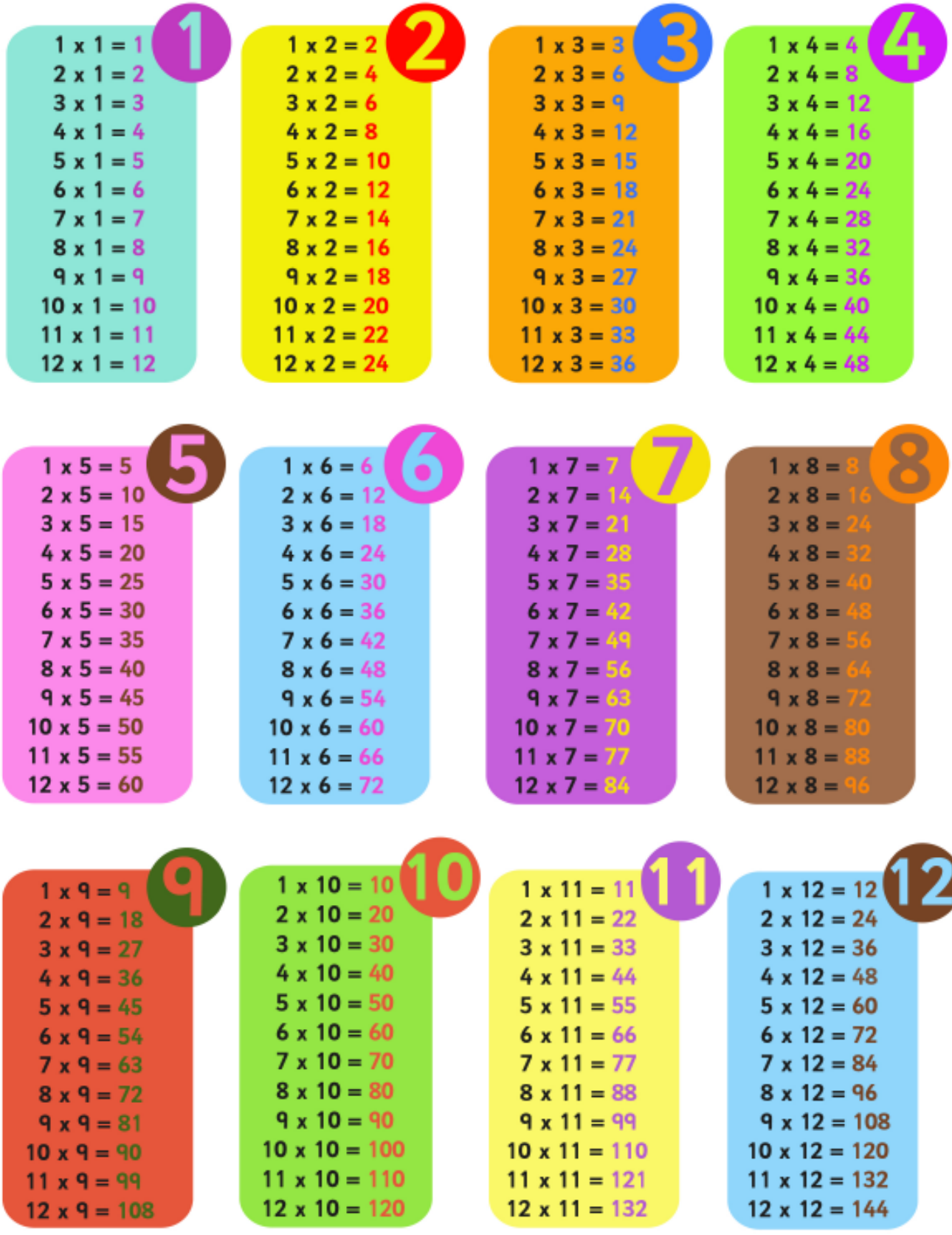
- *'Decide whether each inequality is true or false.'*

	True (✓) or false (✖)?
$6 \times 300 < 6 \times 350$	
$1800 < 6 \times 354$	
$5 \times 328 < 1500$	
$8 \times 494 > 5000$	
$7 \times 758 > 5600$	

'Spot the mistakes.'

$$\begin{array}{r} 73 \\ \times\ \ 4 \\ \hline 2812 \end{array} \qquad \begin{array}{r} 103 \\ \times\ \ 4 \\ \hline 502 \end{array}$$

$$\begin{array}{r} 524 \\ \times\ \ 3 \\ \hline 562 \end{array} \qquad \begin{array}{r} 472 \\ \times\ \ 6 \\ \hline 2922 \end{array}$$


1
1 x 1 = 1
2 x 1 = 2
3 x 1 = 3
4 x 1 = 4
5 x 1 = 5
6 x 1 = 6
7 x 1 = 7
8 x 1 = 8
9 x 1 = 9
10 x 1 = 10
11 x 1 = 11
12 x 1 = 12
2
1 x 2 = 2
2 x 2 = 4
3 x 2 = 6
4 x 2 = 8
5 x 2 = 10
6 x 2 = 12
7 x 2 = 14
8 x 2 = 16
9 x 2 = 18
10 x 2 = 20
11 x 2 = 22
12 x 2 = 24
3
1 x 3 = 3
2 x 3 = 6
3 x 3 = 9
4 x 3 = 12
5 x 3 = 15
6 x 3 = 18
7 x 3 = 21
8 x 3 = 24
9 x 3 = 27
10 x 3 = 30
11 x 3 = 33
12 x 3 = 36
4
1 x 4 = 4
2 x 4 = 8
3 x 4 = 12
4 x 4 = 16
5 x 4 = 20
6 x 4 = 24
7 x 4 = 28
8 x 4 = 32
9 x 4 = 36
10 x 4 = 40
11 x 4 = 44
12 x 4 = 48
5
1 x 5 = 5
2 x 5 = 10
3 x 5 = 15
4 x 5 = 20
5 x 5 = 25
6 x 5 = 30
7 x 5 = 35
8 x 5 = 40
9 x 5 = 45
10 x 5 = 50
11 x 5 = 55
12 x 5 = 60
6
1 x 6 = 6
2 x 6 = 12
3 x 6 = 18
4 x 6 = 24
5 x 6 = 30
6 x 6 = 36
7 x 6 = 42
8 x 6 = 48
9 x 6 = 54
10 x 6 = 60
11 x 6 = 66
12 x 6 = 72
7
1 x 7 = 7
2 x 7 = 14
3 x 7 = 21
4 x 7 = 28
5 x 7 = 35
6 x 7 = 42
7 x 7 = 49
8 x 7 = 56
9 x 7 = 63
10 x 7 = 70
11 x 7 = 77
12 x 7 = 84
8
1 x 8 = 8
2 x 8 = 16
3 x 8 = 24
4 x 8 = 32
5 x 8 = 40
6 x 8 = 48
7 x 8 = 56
8 x 8 = 64
9 x 8 = 72
10 x 8 = 80
11 x 8 = 88
12 x 8 = 96
9
1 x 9 = 9
2 x 9 = 18
3 x 9 = 27
4 x 9 = 36
5 x 9 = 45
6 x 9 = 54
7 x 9 = 63
8 x 9 = 72
9 x 9 = 81
10 x 9 = 90
11 x 9 = 99
12 x 9 = 108
10
1 x 10 = 10
2 x 10 = 20
3 x 10 = 30
4 x 10 = 40
5 x 10 = 50
6 x 10 = 60
7 x 10 = 70
8 x 10 = 80
9 x 10 = 90
10 x 10 = 100
11 x 10 = 110
12 x 10 = 120
11
1 x 11 = 11
2 x 11 = 22
3 x 11 = 33
4 x 11 = 44
5 x 11 = 55
6 x 11 = 66
7 x 11 = 77
8 x 11 = 88
9 x 11 = 99
10 x 11 = 110
11 x 11 = 121
12 x 11 = 132
12
1 x 12 = 12
2 x 12 = 24
3 x 12 = 36
4 x 12 = 48
5 x 12 = 60
6 x 12 = 72
7 x 12 = 84
8 x 12 = 96
9 x 12 = 108
10 x 12 = 120
11 x 12 = 132
12 x 12 = 144