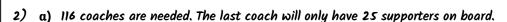
1) a) 252r5









- b) They will be able to send out 131 boxes. There will be 4 books left over.
- c) They will need 155 boxes. They will have 10 extra cartons.
- 1) Accept an explanation that shows that Oscar is correct. Oscar has used the prime factors of 14 to help him work out if the number is divisible by 14. 2 and 7 are the prime factors of 14; therefore, any number divisible by 2 and 7 will also be divisible by 14. Lorna has not used factors of 14: she has simply partitioned 14.



2) 4822 ÷ 22 = 219r4

1176 ÷ 24 =

49

2821 ÷ 11 =

256r5

1281 ÷ 21 =

61

- a) Accept an explanation that shows this is sometimes true. For example,  $4822 \div 22$  has an even dividend and divisor but it still leaves a remainder.  $1176 \div 24$  has an even dividend and divisor and does not leave a remainder.
- b) Accept an explanation that shows this is always true. For example,  $1281 \div 21$  doesn't leave a remainder. The factors of 21 are 1, 3, 7 and 21.  $1281 \div 1 = 1281$ ,  $1281 \div 3 = 427$  and  $1281 \div 7 = 183$ .
- c) Accept an explanation that shows this is sometimes true. For example, 2821 ÷ 11 leaves a remainder of 5, however 1176 ÷ 49 doesn't leave a remainder.

1) α)	1392 is a multiple of 2, 3, 8 and 16.	1650 is a multiple of 2, 3, 11 and 22.	1536 is a multiple of 2, 3, 8 and 16.
	1824 is a multiple of 2, 3, 8 and 16.	3675 is a multiple of 3, 7 and 21.	1958 is a multiple of 2, 11 and 22.
	1386 is a multiple of 2, 3, 7, 11, 21 and 22.	2420 is a multiple of 2, 11 and 22.	2058 is a multiple of 2, 3, 7 and 21.



b) Accept any answer that shows a relationship between some of the divisors. For example, if a number is divisible by 21 without leaving a remainder, it can also be divided by 3 and 7 without leaving a remainder.

c)	1392 is a multiple of 1, 2, 3, 4, 6,	1650 is a multiple of 1, 2, 3, 5, 6,	1536 is a multiple of 1, 2, 3, 4, 6,
	8, 12 and 16.	10, 11 and 15.	8, 12 and 16.
	1824 is a multiple of 1, 2, 3, 4, 6, 8, 12, 16 and 19.	3675 is a multiple of 1, 3, 5, 7 and 15.	1958 is a multiple of 1, 2 and 11 (and 22).
	1386 is a multiple of 1, 2, 3, 6, 7,	2420 is a multiple of 1, 2, 4, 5, 10,	2058 is a multiple of 1, 2, 3, 6, 7
	9, 11, 14 and 18.	11 and 20.	and 14.

