1)

Factors of 12	Factors of 40	Factors of 36	Factors of 24
2	2	2	2
4	5	12	8
3	8	4	12
12	4	9	4
	10	3	3

2)

Factors of 12	Factors of 40	Factors of 36	Factors of 24
1	1	1	1
6	20	36	24
	40	18	6
		6	

1) Alfie has made a mistake because 20 multiplied by any number will not give a product of 36. 20 is over half of 36 and therefore could not be a factor of this number. 18 is the greatest factor of 36 apart from 36 and 1.

2) a) This is false. Square numbers have an odd number of factors because one of their factors is always multiplied by itself and we only count each number as a factor once. 9 is a square number and its factors are 1, 9 and 3.

b) This is false. 48 has 10 factors, but 60, 72, 84, 90 and 96 all have 12 factors.

c) This is false. 96 has 12 factors, but 113 only has 2 factors – 1 and itself, 113.

1) Factors of 36 – 1, 2, 3, 4, 6, 9, 12, 18, 36
Factors of 30 – 1, 2, 3, 5, 6, 10, 15, 30
Rebecca's sister could be 2, 4 or 9 years old.

2) a) Possible numbers are:

10, 11 and 12	40, 41 and 42	70, 71 and 72
20, 21 and 22	50, 51 and 52	80, 81 and 82
30, 31 and 32	60, 61 and 62	90, 91 and 92

b) Look for explanations where children identify that only multiples of 5 are going to have 5 as a factor. All numbers will have 1 as a factor. However, only even numbers will have 2 as a factor, therefore the multiples of 5 must be those that end with a 0 as the third number (and therefore the first number) must be even.