



1)

a)

12	15
1, 12, 2, 6, 3, 4	1, 15, 3, 5
1, 3	

b)

24	36
1, 24, 2, 12, 3, 8, 4, 6	1, 36, 2, 18, 3, 12, 4, 9, 6
1, 2, 3, 4, 6	

c)

81	60
1, 81, 3, 27, 9	1, 60, 2, 30, 3, 20, 4, 15, 5, 12, 6, 10
1, 3	

d)

45	16
1, 45, 3, 15, 5, 9	1, 16, 2, 8, 4
1	

e)

56	20
1, 56, 2, 28, 4, 14, 7, 8	1, 20, 2, 10, 4, 5
1, 2, 4	

f)

28	48
1, 28, 2, 14, 4, 7	1, 48, 2, 24, 3, 16, 4, 12, 6, 8
1, 2, 4	

2) Multiple answers possible. Here are some possibilities:

a)

3
12 and 15 or 81 and 60 or 36 and 15

b)

4
56 and 20 or 28 and 48 or 20 and 28

c)

6
24 and 36 or 12 and 18 or 6 and 60

- a) This is sometimes true. For example, 24 has 8 factors: 1 and 24; 2 and 12; 3 and 8; and 4 and 6. So 24 has an even number of factors. However, 16 has 5 factors: 1 and 16; 2 and 8; and 4.
- b) This is sometimes true. For example, 45 and 15 are a pair of odd numbers. They have three common factors: 1, 3 and 5. 28 and 48 are a pair of even numbers. They also have three common factors: 1, 2 and 4. This proves that pairs of even numbers don't always have more common factors than odd numbers.
- c) This is always true. Every number has at least two factors: 1 and itself. For example, 7 has two factors: 1 and 7.
- d) This is never true. As every number has at least one pair of factors, 1 and itself, then every pair of numbers will always share at least one common factor: 1. For example, 45 and 16 share only one common factor: 1.



1) Aaron is correct. 8 is a common factor of 64 and 48. 6 is only a factor of 48, and not 64.

2)

- a) He could cut the ribbon into lengths of 5cm, 10cm, 20cm, 30cm or 60cm.
- b) 40 is a factor of 240, but it is not a factor of 180. If he cut the 180cm ribbon into 40cm lengths, he would have 20cm left over.

