

FACTORS, DIVISORS, PRIMES, ETC...

1. Determine whether each number is *prime* or *composite*:
 a) 9 b) 7 c) 23 d) 24

2. Write *all the factors* of the following numbers:
 a) 32 b) 48 c) 54 d) 90

3. Write the following numbers as a product of their prime factors (*Hint*: use a factor tree)
 a) 300 b) 936 c) 2450 d) 7986

4. A *perfect number* is one that is **the sum of all its factors except itself**. For example, 6 is perfect since 1, 2, 3 and 6 are all its factors and $1 + 2 + 3 = 6$.
 Find the next two perfect numbers. (*Hint*: one is just less than 30 and the other is between 490 and 500.)

5. Write all the possible whole number dimensions for a rectangle having an area of 36m^2 .

6. Find the **GCF** for the following:
 a) 28, 49 b) 32, 48 c) 24, 36 d) 18, 24 e) 25, 50 f) 12, 18, 24

7. Find the **LCM** for the following:
 a) 18, 27 b) 10, 25 c) 16, 24 d) 32, 40 e) 28, 36 f) 24, 36, 12

Answers:	1a) Composite	b) Prime	c) Prime	d) Composite	
2a) 1, 2, 4, 8, 16, 32	b) 1, 2, 4, 6, 8, 12, 24, 48	c) 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90	d) 2 × 2 × 2 × 3 × 3 × 13	e) 2 × 3 × 11 × 11 × 11	f) 6
3a) 2 × 2 × 3 × 5 × 5	b) 2 × 2 × 2 × 3 × 3 × 13	c) 2 × 5 × 5 × 7 × 7	d) 1 × 36, 2 × 18, 3 × 12, 4 × 9, 6 × 6	e) 1 × 36, 2 × 18, 3 × 12, 4 × 9, 6 × 6	f) 72
4) 28, 496	5) 1 × 36, 2 × 18, 3 × 12, 4 × 9, 6 × 6	6a) 7	b) 16	c) 12	d) 6
7a) 54	b) 50	c) 48	d) 160	e) 1008	f) 72