

### Level 3 Types of Numbers

*Answer the following questions, showing all your working.  
No calculator allowed.*

1. Calculate

(a)  $8 - 3 \times 2$

$$= 8 - 6$$

$$= 2$$

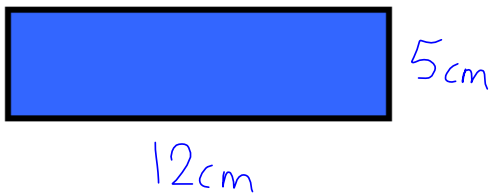
(b)  $4 + \underline{2 \times 3^2}$

$$= 4 + 2 \times 9$$

$$= 4 + 18$$

$$= 22$$

2. Calculate the area and perimeter of the rectangle below, with length 12cm and breadth 5cm.



$$A = L \times B$$

$$= 12 \times 5$$

$$= \underline{\underline{60\text{cm}^2}}$$

$$\text{Perimeter} = 12 + 5 + 12 + 5$$

$$= 34\text{cm}$$

$$\text{OR, Perimeter} = (12 + 5) \times 2$$

$$= 17 \times 2$$

$$= 34\text{cm.}$$

3. Create a shape with rotational symmetry of order 4.

4. Write down the first 10 square numbers.

1, 4, 9, 16, 25, 36, 49, 64, 81, 100

5. The temperature one day rose from  $-15^{\circ}\text{C}$  to  $12^{\circ}\text{C}$ .  
By how much had it risen?

$$15 + 12 \\ = 27^{\circ}$$

6. Excluding zero, list the first 6 multiples of:-

(a) 6

(b) 8

(c) 11

(d) 20

a) 6, 12, 18, 24, 30, 36

b) 8, 16, 24, 32, 40, 48

c) 11, 22, 33, 44, 55, 66

d) 20, 40, 60, 80, 100, 120

7. Find the l.c.m of each of the following sets of numbers.

(a) 6 and 2

(b) 7 and 9

(c) 3, 5 and 10

a) 6

b) 63

c) 30

8. Find the h.c.f for each of the following:-

(a) 24 and 36      (b) 13 and 26      (c) 12 and 42

a) 12

b) 13

c) 6



9. There is only one number which is both a multiple and a factor of 12.  
What is the number?

12

10. List all the prime numbers between 50 and 100.

53, 59, 61, 67, 71, 73, 79, 83, 89, 97

$$\begin{array}{r} 29 \\ 3 \overline{)87} \end{array}$$

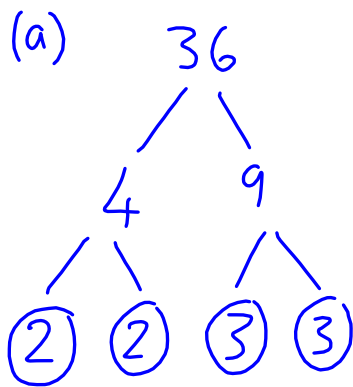
$$\begin{array}{r} 13 \\ 7 \overline{)91} \end{array}$$

11. List each of the following numbers as a product of primes:-  
(Hint:- construct a "Prime factor tree")

(a) 36

(b) 64

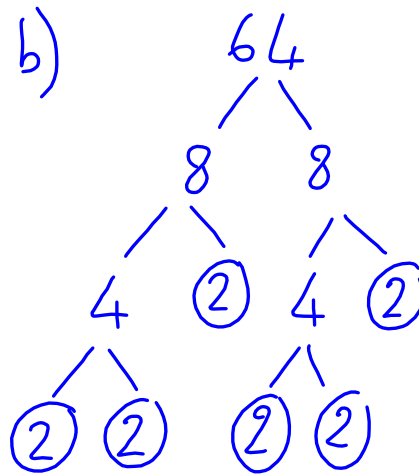
(c) 98



Prime factors are 2 & 3

$$\text{So } 36 = 2 \times 2 \times 3 \times 3$$

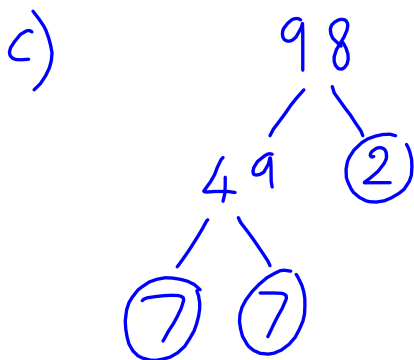
$$\text{or } 36 = 2^2 \times 3^2$$



Prime factor is 2

$$64 = 2 \times 2 \times 2 \times 2 \times 2 \times 2$$

$$\text{or } 64 = 2^6$$



Prime factors are 2 & 7

$$98 = 2 \times 7 \times 7$$

$$\text{or } 98 = 2 \times 7^2$$