

Roots, Powers and Primes

30 marks

1. Here is a list of seven numbers

6 8 9 12 14 20 23

From the list, write down

(a) a square number,

..... (1)

(b) a number that is a multiple of 7,

..... (1)

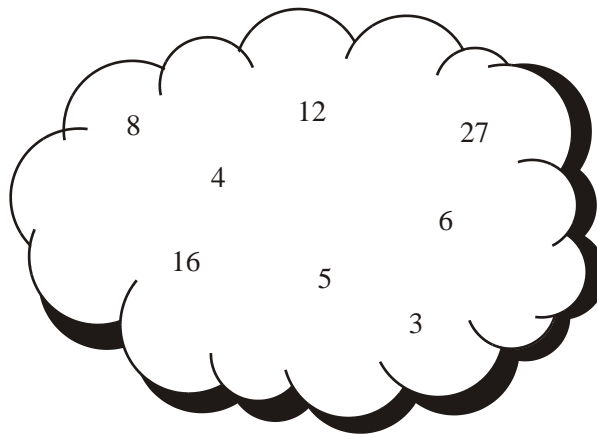
(c) **two** numbers that are factors of 40,

..... (1)

(d) two numbers with a difference of 9.

..... (1)
(Total 4 marks)

2.



Using only the numbers in the cloud, write down

(i) all the multiples of 6,

(ii) all the square numbers,

(iii) all the factors of 12,

(iv) all the cube numbers.

(Total 4 marks)

3. Here is a list of eight numbers.

5 6 12 20 25 26 28 33

(a) From the list, write down

(i) a square number,

.....

(ii) a number that is a multiple of 7,

.....

(iii) **two** numbers that are factors of 40,

..... and

(iv) **two** numbers with a sum of 59.

..... and

(4)

(b) Tony says that “6 is a cube number because $2^3 = 6$ ”.
Tony is wrong. Explain why.

.....

(1)

(Total 5 marks)

4. Here is a list of 8 numbers.

11 16 18 36 68 69 82 88

(a) Write down **two** numbers from the list with a sum of 87

..... ,

(1)

(b) Write down a number from the list which is

(i) a multiple of 9,

.....

(ii) a square number.

.....

(2)

cube	multiple	factor	product
------	----------	--------	---------

(c) Use a word from the box to complete this sentence correctly.

11 is a of 88

(1)

Here are the same 8 numbers drawn larger.

11 16 18 36
68 69 82 88

(d) From these numbers, write down a number which has

(i) exactly **one** line of symmetry,

.....

(ii) 2 lines of symmetry **and** rotational symmetry of order 2,

.....

(iii) rotational symmetry of order 2 but **no** lines of symmetry.

.....

(3)
(Total 7 marks)

5. Here is a list of numbers.

17 24 25 26 35 43 44

From the numbers in the list, write down

(i) the odd number that is larger than 40,

.....

(ii) the number that is a multiple of 7,

.....

(iii) two numbers that have a difference of 20,

.....,

(iv) the number that has the same value as $2 + 3 \times 5$

.....

(Total 4 marks)

6. (a) Write 0.37 as a fraction.

.....

(1)

(b) Write down **all** the factors of 21

.....

(2)

(Total 3 marks)

7.

2 3 4 5 6 7 8

From the list of numbers, write down

(i) the square number,

.....

(ii) the cube number,

.....

(iii) the square root of 9.

.....

(Total 3 marks)