



Maths-it Podcast F-01

Foundation GCSE Revision

Factors, powers, primes and roots

Topics

Factors, powers, primes and roots, with and without a calculator – Rules of indices

Questions

1. Here is a list of seven numbers

6 8 11 12 21 25 27

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 60, (1)
 - (d) two numbers with a difference of 9. (1)
 - (e) a prime number. (1)
- (Total 5 marks)**

2. (a) Work out the value of $10 - \sqrt{49}$.

..... (1)

(b) Find the cube of 3.

..... (1)
(Total 2 marks)

3. Explain why $\sqrt{50}$ is more than 7.

.....
.....
.....
.....

(Total 1 mark)



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4. (a) Write down all the prime numbers between 30 and 40.

..... (2)

(b) Write down the cube of 10.

..... (1)

(Total 3 marks)

5. Find the value of the square root of 4.8841

..... (Total 1 mark)

6. Find the value of 5.1^3

..... (Total 1 mark)

7. (a) Find the value of

(i) the square root of 81

.....

(ii) 9×10^3

.....

(iii) 3^3

.....

(b) write as a power of 10

$$10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10$$

.....

(Total 4 marks)

8. $25 = 5^2$ can be read as 25 is the *square* of 5.

Fill in the missing words in each of the sentences below.

(i) $7 = \sqrt{49}$ can be read as 7 is the of 49.

(ii) $27 = 3^3$ can be read as 27 is the of 3.

(Total 2 marks)



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9. 2, 6, 10, 17, 21, 27, 38, 49

From the list, write down,

(i) the square number,

.....

(ii) the cube number.

.....

(ii) the two prime numbers.

..... and

(Total 4 marks)

10. Work out the value of $3^3 \times 10^2$

.....

(Total 2 marks)

11. Here is a list of eight numbers.

5 7 12 20 25 26 28 32

(a) From the list, write down

(i) a number that is a factor of 21,

.....

(ii) a number that is a multiple of 8,

.....

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

..... and

(iv) **two** numbers with a sum of 38.

..... and

(4)

(b) Jayne says that “15 is a cube number because $5^3 = 15$ ”.
Jayne is wrong. Explain why.

.....

(1)

(Total 5 marks)



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12. (a) Write as a power of 7

(i) $7^2 \times 7^9$

.....

(ii) $7^{11} \div 7^4$

.....

(iii) $(7^4)^2$

.....

(Total 3 marks)