



Name: _____ **Date:** _____ **Score:** _____ / 46

1 Is 51 a prime number? Give a reason for your answer. (2 marks)

Answer _____

2 Write 84 as a product of its prime factors. (2 marks)

Answer _____

3 Here is part of a factor tree for 90.
90 splits into 9 and 10. 9 splits into 3 and A . 10 splits into B and 5. All the numbers at the ends of the branches are prime.

a. Work out the values of A and B .

b. Write 90 as a product of its prime factors. (3 marks)

Answer _____

4 Write 264 as a product of its prime factors. (2 marks)

Answer _____

5 Here is a list of numbers.

8 14 19 27 35

Write down the number from the list that is a prime number. (1 mark)

Answer _____

6 Is 97 a prime number? Show how you know. (2 marks)

Answer _____

7

- a. Write 168 as a product of its prime factors.
- b. Write 252 as a product of its prime factors.
- c. Work out the highest common factor (HCF) of 168 and 252.

(3 marks)

Answer _____

8

$$A = 2^3 \times 3 \times 5 \quad \text{and} \quad B = 2^2 \times 3^2 \times 7$$

- a. Find the lowest common multiple (LCM) of A and B .
- b. Find the highest common factor (HCF) of A and B .

Give each answer as an ordinary number.

(4 marks)

Answer _____

9

Use prime factors to show that 1764 is a square number.

(3 marks)

Answer _____

10

- a. Write 90 and 150 as products of prime factors, in index form.
- b. Find the highest common factor (HCF) of 90 and 150.
- c. Find the lowest common multiple (LCM) of 90 and 150.

(5 marks)

Answer _____

- 11** 72 is multiplied by a whole number n to give a square number.
Find the smallest possible value of n , and the square number.

(3 marks)

Answer _____

12 $120 = 2^3 \times 3 \times 5$

Write 1200 as a product of its prime factors.

(3 marks)

Answer _____

- 13** Write 360 as a product of powers of its prime factors.

(3 marks)

Answer _____

- 14** List all the prime numbers between 20 and 35.

(2 marks)

Answer _____

- 15** a. Write 126 as a product of its prime factors.
b. Find the lowest common multiple (LCM) of 126 and 60

(4 marks)

Answer _____

16

- a. Write 448 as a product of powers of its prime factors.
- b. Find the highest common factor (HCF) of 448 and 168

(4 marks)

Answer

End of questions | Total 46 marks