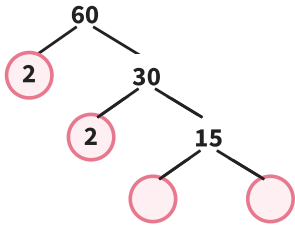


Prime Factor Decomposition

1

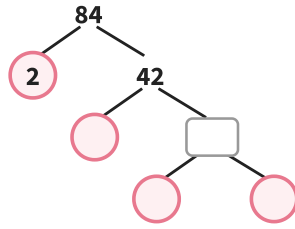
Write 60 as a product of its prime factors. Give your answer in index form.



Answer _____

2

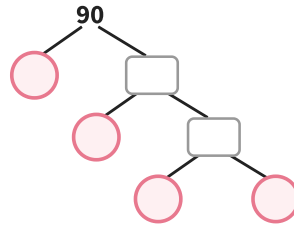
Write 84 as a product of its prime factors. Give your answer in index form.



Answer _____

3

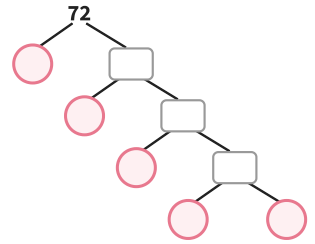
Write 90 as a product of its prime factors. Give your answer in index form.



Answer _____

4

Write 72 as a product of its prime factors. Give your answer in index form.



Answer _____

5

Write 126 as a product of its prime factors. Give your answer in index form.

Answer _____

6

Write 150 as a product of its prime factors. Give your answer in index form.

Answer _____

7

A number written as a product of its prime factors is $2^3 \times 3 \times 5$. What is the number?

Answer _____

8

Tom writes $60 = 2 \times 5 \times 6$. Why is this not a product of prime factors? Write it correctly.

Answer _____

Prime Factor Decomposition *further practice*

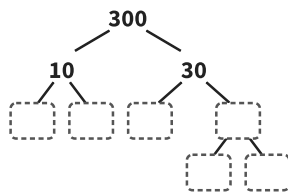
9

Write 252 as a product of its prime factors. Give your answer in index form.

Answer _____

10

Complete the prime factor tree for 300. Then write 300 as a product of its prime factors in index form.



Answer _____

11

Find the missing power.

$$2 \times 3^{\square} \times 5 = 270$$

Answer _____

12

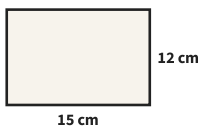
Which of these numbers have no prime factors other than 2, 3 and 7?

84 90 126 154

Answer _____

13

Work out the area of this rectangle. Write the area as a product of its prime factors in index form.



Answer _____

14

A crate holds 48 eggs, and $48 = 2^4 \times 3$. Write the number of eggs in 10 full crates as a product of its prime factors in index form.

Answer _____

15

Sara's number is $2 \times 3 \times 5 \times p$, where p is a prime number. Her number is between 200 and 250. What is p ?

Answer _____

16

There are 168 pupils in Year 8, and $168 = 2^3 \times 3 \times 7$. Mr Ali says the 168 pupils can be split into 9 equal groups. Is he right? Explain.

Answer _____