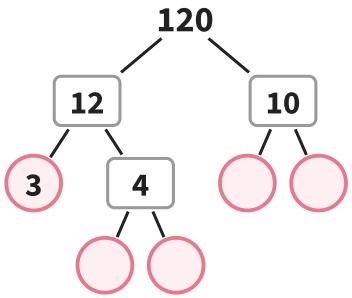
Prime factor decomposition

1

Write 120 as a product of its prime factors. Give your answer in index form.

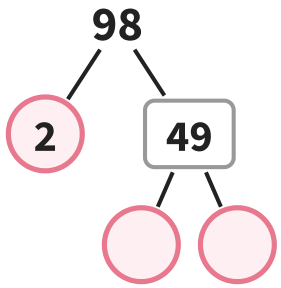


120 = _____

Index form _____

2

Write 98 as a product of its prime factors. Give your answer in index form.

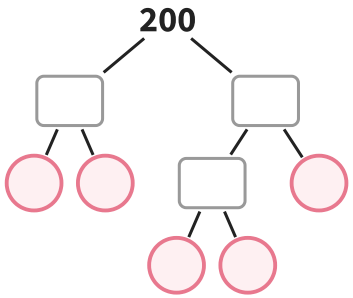


98 = _____

Index form _____

3

Write 200 as a product of its prime factors. Give your answer in index form.

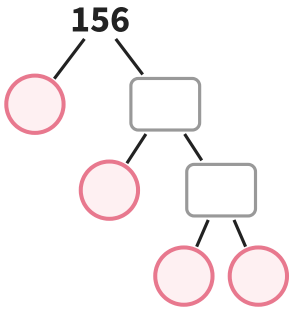


200 = _____

Index form _____

4

Write 156 as a product of its prime factors. Give your answer in index form.



156 = _____

Index form _____

5

Write 135 as a product of its prime factors. Give your answer in index form.

Answer _____

6

A number written as a product of its prime factors is $2^4 \times 3 \times 5$.
What is the number?

_____

_____

Answer _____

7

Ben starts a factor tree for 96 with 8×12.
Amira starts hers with 2×48.
Will they get the same answer?
Write 96 in index form.

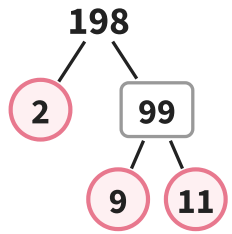
_____

_____

96 = _____

8

Leo draws this tree and writes $198 = 2 \times 9 \times 11$. What has he done wrong? Write 198 in index form.



_____

198 = _____

Prime factor decomposition *further practice*

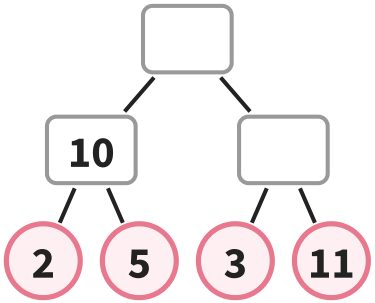
9

Write 264 as a product of its prime factors. Give your answer in index form.

Answer _____

10

Find the missing numbers in this factor tree.



Answer _____

11

Write 175 and 245 as products of their prime factors. Which primes are in both?

175 = _____

245 = _____

In both _____

12

A theatre has $2^4 \times 3 \times 7$ seats. How many seats is that?

_____

_____

Answer _____

13

Find the missing prime.

$2^2 \times \square \times 11 = 220$

_____

_____

Answer _____

14

The area of this square is $2^2 \times 5^2$ cm^2. Work out the area, and the length of one side.



Area _____

Side _____

15

Write 196 as a product of its prime factors. Use your answer to show that 196 is a square number.

_____

_____

196 = _____

16

Explain why $2^4 \times 3^2$ is not a multiple of 5.

_____

_____

_____