Prime Factorization

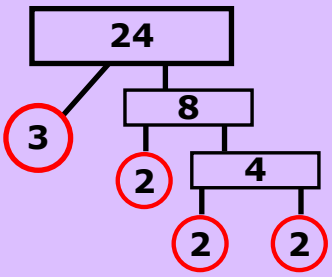
To do prime factorization, we must first know what prime numbers and factors are. A prime number can be divided evenly only by 1 and itself, and must be a whole number greater than 1. "Factors" are any two numbers you multiply to get another number. Prime factorization is all about finding which prime numbers multiply together to make the original number.

Example: What are the prime factors of 24?

The easiest way to find the answers is to create a visual tree:

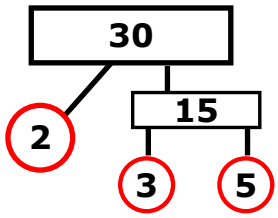
3 x 8 = 24. 3 is a prime number, but 8 is not. You must continue to factor 8 until you have reached its prime factors.

ANSWER: 2 x 2 x 2 x 3 = 24



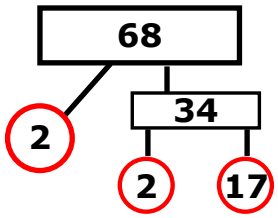
Find the prime factors of the numbers below. Continue to draw the visual tree for each, and on the lines provided, write out the number's prime factors like the answer in the example.

1)



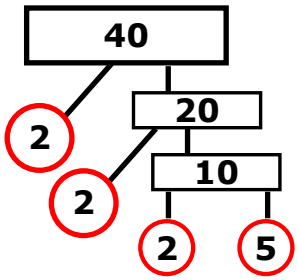
2 X 3 X 5 = 30

2)



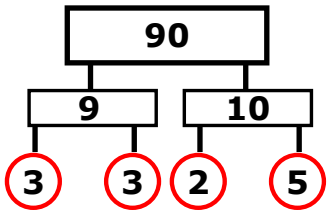
2 X 2 X 17 = 68

3)



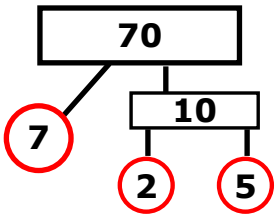
2 X 2 X 2 X 5 = 40

4)



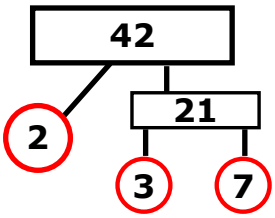
2 X 3 X 3 X 5 = 90

5)



2 X 5 X 7 = 70

6)



2 X 3 X 7 = 42