

Prime Factorization Worksheet Answer Key

Prime Factors: Too Many 2s

1. Write the prime factorization for 160.

$$\begin{aligned}2 \times 80 \\2 \times 2 \times 40 \\2 \times 2 \times 2 \times 20 \\2 \times 2 \times 2 \times 2 \times 10 \\2 \times 2 \times 2 \times 2 \times 2 \times 5 \\2^5 \times 5\end{aligned}$$

2. Write the prime factorization for 39.

$$3 \times 13$$

3. Write the prime factorization for 615.

$$\begin{aligned}3 \times 205 \\3 \times 5 \times 41\end{aligned}$$

4. Write the prime factorization for 25.

$$\begin{aligned}5 \times 5 \\5^2\end{aligned}$$

5. Write the prime factorization for 63.

$$\begin{aligned}3 \times 21 \\3 \times 3 \times 7 \\3^2 \times 7\end{aligned}$$

6. Write the prime factorization for 240.

$$\begin{aligned}2 \times 120 \\2 \times 2 \times 60 \\2 \times 2 \times 2 \times 30 \\2 \times 2 \times 2 \times 2 \times 15 \\2 \times 2 \times 2 \times 2 \times 3 \times 5 \\2^4 \times 3 \times 5\end{aligned}$$

7. Write the prime factorization for 32.

$$\begin{aligned}2 \times 16 \\2 \times 2 \times 8 \\2 \times 2 \times 2 \times 4 \\2 \times 2 \times 2 \times 2 \times 2 \\2^5\end{aligned}$$

8. Write the prime factorization for 212.

$$\begin{aligned}2 \times 106 \\2 \times 2 \times 53 \\2^2 \times 53\end{aligned}$$

9. Write the prime factorization for 64.

$$\begin{aligned} 2 \times 32 \\ 2 \times 2 \times 16 \\ 2^6 \end{aligned}$$

10. Write the prime factorization for 121.

$$\begin{aligned} 11 \times 11 \\ 11^2 \end{aligned}$$