

# Factoring By Dividing

Step 1. What number can you divide into 24? 2

$$\underline{24}$$

Step 2.

$$\begin{array}{r} 2 \overline{) 24} \\ \underline{12} \phantom{0} \\ 12 \phantom{0} \\ \underline{12} \\ 0 \end{array}$$

How many times can 2 go into 24? 12

What number can be divided into 12? 2

Step 3.

$$\begin{array}{r} 2 \overline{) 24} \\ \underline{2 \overline{) 12}} \\ \phantom{2 \overline{) 12}} 6 \end{array}$$

12 divided by 2 is? 6

What number can be divided into 6? 2

Step 4.

$$\begin{array}{r} \textcircled{2} \overline{) 24} \\ \underline{\textcircled{2} \overline{) 12}} \\ \phantom{\textcircled{2} \overline{) 12}} \textcircled{2} \overline{) 6} \\ \phantom{\textcircled{2} \overline{) 12}} \phantom{\textcircled{2} \overline{) 6}} \textcircled{3} \end{array}$$

6 divided by 2 is..... 3

Circle the prime numbers

When this number is prime you're done!

The prime factorization of

$$24 = 2 \cdot 2 \cdot 2 \cdot 3$$