Exercise 15

In the following exercises, find the least common multiple of each pair of numbers using the prime factors method.

28, 40

Solution

Find the prime factorization of 28.

$$\begin{aligned} 28 &= 2 \times 14 \\ &= 2 \times 2 \times 7 \end{aligned}$$

Find the prime factorization of 40.

$$\begin{aligned} 40 &= 2 \times 20 \\ &= 2 \times 2 \times 10 \\ &= 2 \times 2 \times 2 \times 5 \end{aligned}$$

The number that has all factors from both numbers is $2 \times 2 \times 2 \times 5 \times 7 = 280$, so this is the least common multiple.