

Understanding Common Denominators

To compare or add fractions, we often need to find a **common denominator**. A common denominator is a number that both denominators (the bottom part of the fractions) can divide into evenly.

In this case, we are looking at the fractions **1/8** and **1/4**.

Step 1: Identify the Denominators

- The denominator of **1/8** is **8**.
- The denominator of **1/4** is **4**.

Step 2: Find the Least Common Multiple (LCM)

To find a common denominator, we can look for the **least common multiple (LCM)** of the two denominators (8 and 4). The LCM is the smallest number that both denominators can divide into evenly.

Finding the Multiples:

- Multiples of 8: 8, 16, 24, 32, ...
- Multiples of 4: 4, 8, 12, 16, 20, 24, ...

Finding the LCM:

Looking at the lists above, the smallest number that appears in both lists is **8**. Therefore, the least common multiple of 8 and 4 is **8**.

Step 3: Rewrite the Fractions

Now that we have a common denominator of 8, we can rewrite both fractions:

- 1/8 is already with a denominator of 8.
- To rewrite 1/4 with a denominator of 8, we can multiply both the numerator (the top number) and the denominator (the bottom number) by 2:
 - $1/4 = (1 \times 2) / (4 \times 2) = 2/8$

Final Result

So, we have:

- $1/8 = 1/8$
- $1/4 = 2/8$

Now both fractions can be easily compared or added since they have the same denominator!

Conclusion

Finding a common denominator helps us work with fractions more easily. Remember to list the multiples of each denominator to find the LCM, and then rewrite the fractions based on that common denominator.