

Chapter 4 Rational Numbers

Lesson 4-4 Add and Subtract Unlike Fractions

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1 Find $\frac{1}{6} + \frac{3}{8}$.

Rename using the LCD of 6 and 8, 24.

$$\begin{aligned}\frac{1}{6} + \frac{3}{8} &= \frac{1 \times 4}{6 \times 4} + \frac{3 \times 3}{8 \times 3} && \text{Rename using the LCD, 24.} \\ &= \frac{4}{24} + \frac{9}{24} && \text{Add the fractions.} \\ &= \frac{13}{24} && \text{Simplify.}\end{aligned}$$

11 Four students were scheduled to give book reports in 1 hour. After the first report, $\frac{2}{3}$ hour remained. The next two reports took $\frac{1}{6}$ hour and $\frac{1}{4}$ hour. What fraction of the hour remained?

Begin with $\frac{2}{3}$ hour and subtract the time spent on the next two reports. The result is the amount of time remaining.

Rename using the LCD of 3, 6, and 4, which is 12.

$$\begin{aligned}\frac{2}{3} - \left(\frac{1}{6} + \frac{1}{4}\right) &= \frac{2 \times 4}{3 \times 4} - \left(\frac{1 \times 2}{6 \times 2} + \frac{1 \times 3}{4 \times 3}\right) && \text{Rename using the LCD, 12.} \\ &= \frac{8}{12} - \left(\frac{2}{12} + \frac{3}{12}\right) && \text{Add.} \\ &= \frac{8}{12} - \frac{5}{12} && \text{Subtract.} \\ &= \frac{3}{12} && \text{Simplify.} \\ &= \frac{1}{4} && \text{Simplify.}\end{aligned}$$

So, $\frac{1}{4}$ hour remained for the final report.