

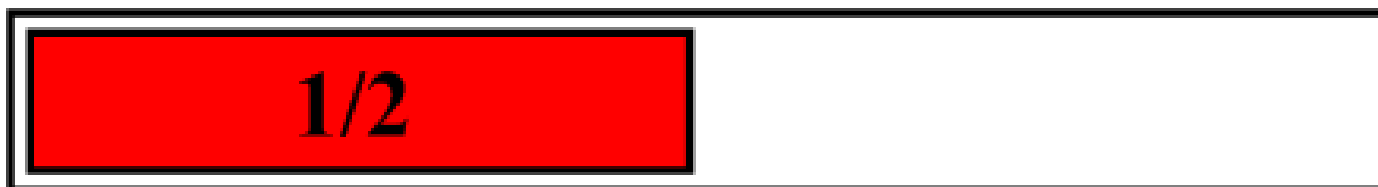
Section 5-4:
Adding & Subtracting
Fractions
(Different Denominators)

Adding & Subtracting Fractions:

1. Same Denominators

- Add or Subtract the Numerators
- Denominator Stays the Same

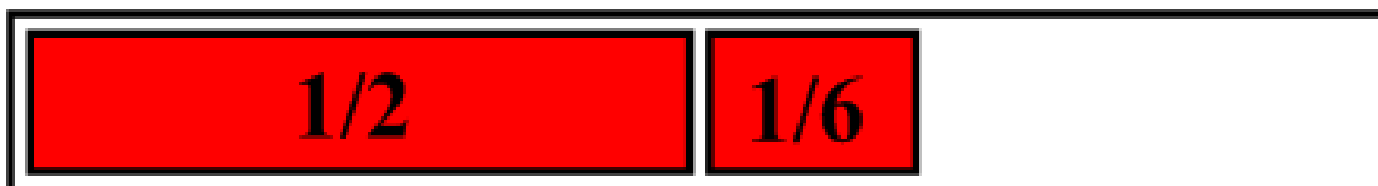
2. Different Denominators?



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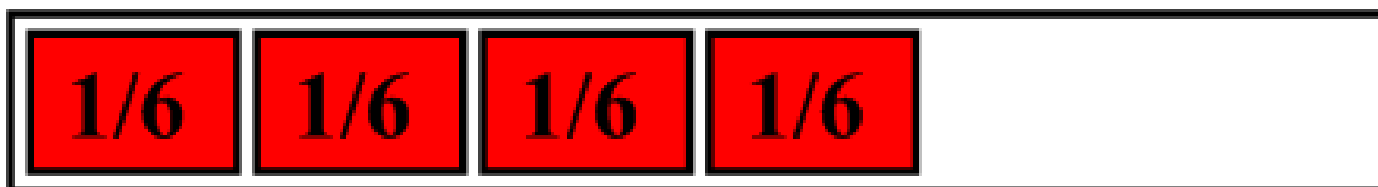
$$\frac{1}{2} + \frac{1}{6} =$$



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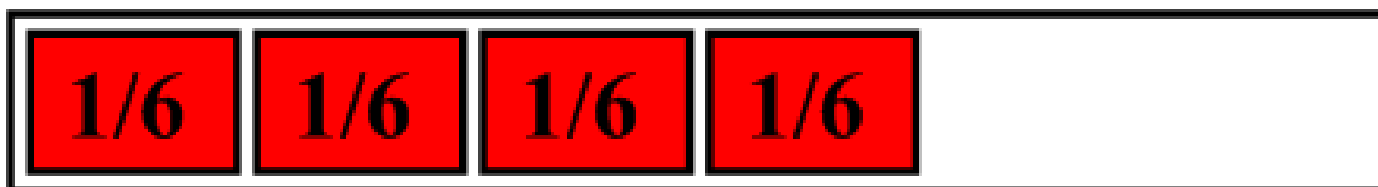
$$\frac{1}{2} + \frac{1}{6} = \frac{3}{6} + \frac{1}{6} =$$



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$$\frac{1}{2} + \frac{1}{6} = \frac{3}{6} + \frac{1}{6} = \frac{4}{6} = \frac{2}{3}$$

To add or subtract fractions with different denominators:

1. Use equivalent fractions to rewrite both fractions with common denominators
2. Add or subtract the numerators
3. Simplify

What is the common denominator?

Ex. 1: $\frac{1}{2}$, $\frac{3}{5}$ Comm. Den. = 10

Ex. 2: $\frac{5}{6}$, $\frac{2}{4}$ Comm. Den. = 12

Find equivalent fractions using the common denominator?

Ex. 3: $\frac{1 \cdot 5}{2 \cdot 5}, \frac{3 \cdot 2}{5 \cdot 2}, \frac{5}{10}, \frac{6}{10}$

Ex. 4: $\frac{5 \cdot 2}{6 \cdot 2}, \frac{2 \cdot 3}{4 \cdot 3}, \frac{10}{12}, \frac{6}{12}$

Evaluate the following:

$$\text{Ex. 5: } \frac{3 \cdot 2}{4 \cdot 2} + \frac{5}{8} = \frac{6}{8} + \frac{5}{8} = \frac{11}{8}$$

$$\text{Ex. 6: } \frac{5 \cdot 2}{9 \cdot 2} - \frac{1 \cdot 3}{6 \cdot 3} = \frac{10}{18} - \frac{3}{18} = \frac{7}{18}$$

Evaluate the following:

$$\text{Ex. 7: } \frac{3 \cdot 3}{10 \cdot 3} + \frac{4 \cdot 2}{15 \cdot 2} = \frac{9}{30} + \frac{8}{30} = \frac{17}{30}$$

$$\text{Ex. 8: } 3\frac{1}{2} - 1\frac{1}{5} = \frac{7 \cdot 5}{2 \cdot 5} - \frac{6 \cdot 2}{5 \cdot 2} = \frac{35}{10} - \frac{12}{10} = \frac{23}{10}$$