



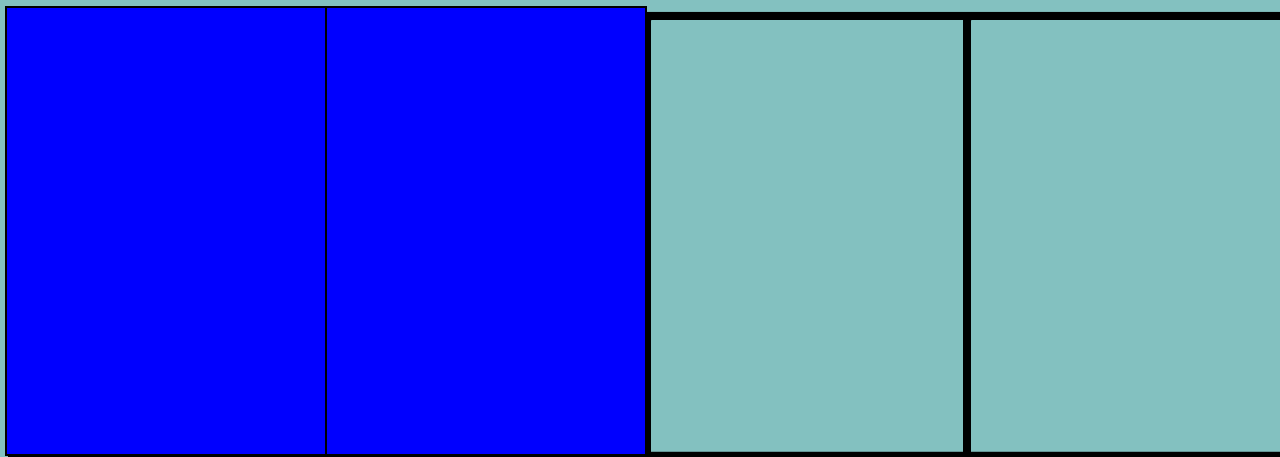
■ Simplifying Fractions



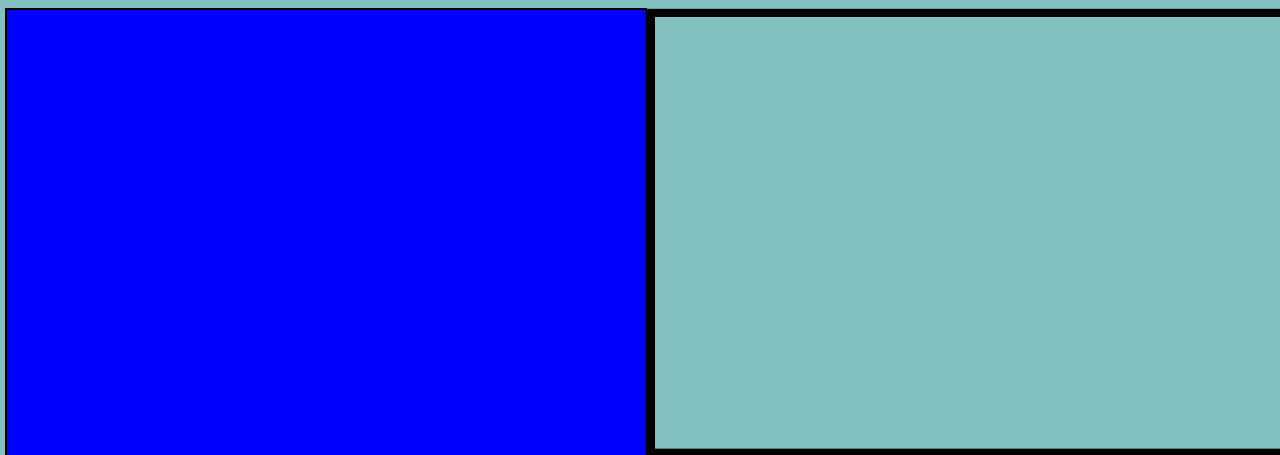
Vocabulary

- **Equivalent fractions** – fractions that name the same number.

Equivalent Fractions

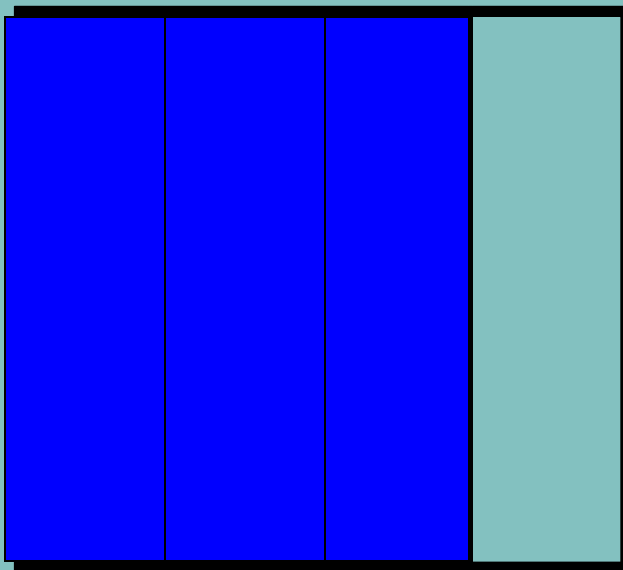


$$\frac{2}{4}$$



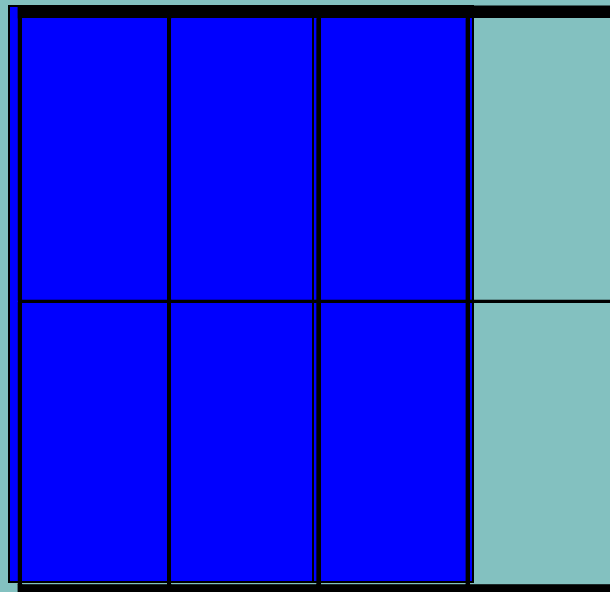
$$\frac{1}{2}$$

Equivalent Fractions



$$\frac{3}{4}$$

=



$$\frac{6}{8}$$

Equivalent Fractions

- To find an equivalent fraction you multiply or divide the numerator *and* the denominator by the same number.

Equivalent Fractions

The diagram illustrates the process of creating equivalent fractions. It shows the fraction $\frac{1}{4}$ on the left and $\frac{2}{8}$ on the right, with an equals sign between them. A blue curved arrow at the top points from the numerator 1 to the numerator 2, with the text "x 2" in blue next to it. A second blue curved arrow at the bottom points from the denominator 4 to the denominator 8, also with the text "x 2" in blue next to it.

$$\frac{1}{4} = \frac{2}{8}$$

Equivalent Fractions

$$\frac{18}{21} = \frac{6}{7}$$

$\div 3$

$\div 3$

Vocabulary

- **Simplest form** – when the GCF of the numerator and denominator is one.

Rules for Simplifying Fractions

- When the numerator is **1**, the fraction *will not* reduce.

- Example:

$$\frac{1}{2}$$

Rules for Simplifying Fractions

- When the denominator is **prime**, the fraction *will not* reduce.

- Example: $\frac{4}{7}$ (prime)

Rules for Simplifying Fractions

- When the numerator is one less than the denominator, the fraction will not reduce.
(Counting order)

- Example:
$$\frac{4}{5}$$

Rules for Simplifying Fractions

- When the numerator is **prime** *and* does not divide the denominator evenly, the fraction *will not* reduce.

- Example:

$$\frac{5}{8} \quad (\text{prime})$$

Rules for Simplifying Fractions

- When the numerator and the denominator are even, the fraction will always reduce.

- Example:
$$\frac{8}{10} \div 2 = \frac{4}{5}$$

Rules for Simplifying Fractions

- When the numerator divides the denominator evenly, the fraction will always reduce.

- Example:

$$\frac{5 \div 5}{15 \div 5} = \frac{1}{3}$$

Rules for Simplifying Fractions

- When the numerator and the denominator can be divided by a common factor, the fraction will always reduce.

- Example:
$$\frac{9}{12} \div 3 = \frac{3}{4}$$