

Algebra I

Notes 4.4, Part 1 Reciprocals

Objective:

- Find the reciprocal of a rational number.

Reciprocals: Two numbers are **reciprocals** if their **product** is **one**.

Are these numbers reciprocals?

10 and 0.1 _____
 $10 \cdot 0.1 =$ _____

.25 and 4 _____
 $.25 \cdot 4 =$ _____

-2 and $\frac{1}{2}$ _____
 $-2 \cdot \frac{1}{2} =$ _____

-20 and 0.2 _____
 $-20 \cdot 0.2 =$ _____

$\frac{3}{4}$ and $\frac{4}{3}$ _____
 $\frac{3}{4} \cdot \frac{4}{3} =$ _____

$\frac{1}{8}$ and 8 _____
 $\frac{1}{8} \cdot 8 =$ _____

$\frac{2}{3}$ and -1.5 _____
 $\frac{2}{3} \cdot -1.5 =$ _____

$-\frac{5}{7}$ and $-\frac{7}{5}$ _____
 $-\frac{5}{7} \cdot -\frac{7}{5} =$ _____

$\frac{1}{9}$ and -9 _____
 $\frac{1}{9} \cdot -9 =$ _____

To find the reciprocal of a fraction, “FLIP” the fraction (invert the numerator and the denominator).

Write the **reciprocal** of each fraction then verify that the two fractions are reciprocals.

$\frac{3}{4}$ _____
_____ · _____ = _____

$\frac{7}{8}$ _____
_____ · _____ = _____

$\frac{9}{2}$ _____
_____ · _____ = _____

$\frac{13}{7}$ _____
_____ · _____ = _____

$\frac{1}{10}$ _____ = _____
_____ · _____ = _____

$-\frac{1}{6}$ _____ = _____
_____ · _____ = _____

$\frac{-6}{7}$ _____ = _____
_____ · _____ = _____

Any number that can be written as a fraction is called a **rational number**. All rational numbers have reciprocals (except 0)--if you can write it as a fraction, it has a reciprocal.

Example Two is a rational number. Two as a fraction is _____,

its reciprocal is _____ because _____ · _____ = _____.

Write each rational number as a **fraction**, then **write the reciprocal**, then **verify**.

Rational Number

Fraction

Reciprocal

Verification

3

0.25

$3\frac{1}{2}$

$1\frac{3}{7}$

7.1

-4

$\bar{3}$

$2\frac{5}{9}$

-2.8

$4\frac{5}{6}$

7.01