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POWERS

4³ exponent
base

The exponent tells you how many times to use the base as a factor.

Read 4^3 as *four to the third power* or *four to the power of three*.

4^3 means $4 \times 4 \times 4$

16×4

product →

64

$10^1 = 10$

$10^0 = 1$

IMPROPER FRACTION TO MIXED NUMBER

Since the top number (numerator) is top-heavy, imagine that it falls down into the division box and becomes the dividend. Divide and write the remainder as a fraction.

$$\begin{array}{r} 29 \\ \hline 7 \end{array}$$

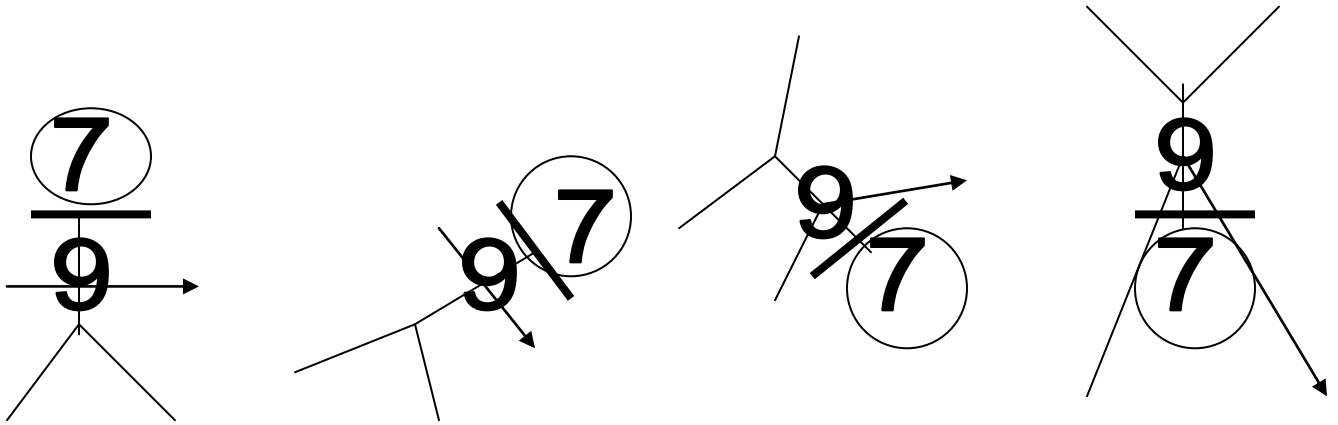
$$\begin{array}{r} 4 \\ \hline 29 \\ 28 \\ \hline 1 \end{array}$$

1 ← remainder
—
7 ← divisor

So, $\frac{29}{7} = 4 \frac{1}{7}$

RECIPROCAL

The word reciprocal means the opposite or an inverse relationship. Sometimes you need to find the reciprocal of fractions. To find the reciprocal of a fraction, imagine that it is a person doing a handstand. *Crazy* visual pictures help us no matter how old we are. Most students are visual learners.



Flip a fraction upside down to show its opposite or reciprocal.

THE FOLLOWING EXAMPLES SHOW RECIPROCAL:

$$\frac{11}{14} \xrightarrow{\text{reciprocal is}} \frac{14}{11} \quad \parallel \quad \frac{16}{31} \xrightarrow{\text{reciprocal is}} \frac{31}{16}$$

Sometimes you will have to find the reciprocal of a whole number. Remember that you cannot have a whole number when performing operations with fractions. Turn the whole number into a fraction first, then make a reciprocal:

$$12 = \frac{12}{1} \xrightarrow{\text{reciprocal is}} \frac{1}{12}$$

HINT: TURN MIXED NUMBERS INTO RECIPROCAL LIKE THIS: $6 \frac{1}{2} = \frac{13}{2} \rightarrow \frac{2}{13}$

