

LONG DIVISION ALGORITHM

def ALGORITHM - A STEP-BY-STEP METHOD USED TO SOLVE A PROBLEM.

DIVISION IS USED TO SEE HOW MANY TIMES THE DIVISOR FITS INTO THE DIVIDEND.

$$\begin{array}{r} 6 \text{ ← QUOTIENT} \\ 4 \overline{) 24} \\ \underline{24} \\ 0 \end{array}$$

DIVISOR DIVIDEND

$$35 \div 7 = 5$$

DIVISOR DIVIDEND QUOTIENT

def A QUOTIENT IS THE ANSWER TO A DIVISION PROBLEM

ALGORITHM

- DAD 1) DIVIDE
- MOM 2) MULTIPLY
- SISTER 3) SUBTRACT
- BROTHER 4) BRING DOWN
- REPEAT 5) REPEAT

$$\begin{array}{r} 25 \\ 3 \overline{) 75} \\ \underline{-6} \downarrow \\ 15 \\ \underline{-15} \\ 0 \end{array}$$

YOU TRY:

$$1) \begin{array}{r} 17 \\ 6 \overline{) 102} \\ \underline{-6} \downarrow \\ 42 \\ \underline{-42} \\ 0 \end{array}$$

$$2) 216 \div 8 = 27$$
$$\begin{array}{r} 27 \\ 8 \overline{) 216} \\ \underline{-16} \downarrow \\ 56 \\ \underline{-56} \\ 0 \end{array}$$

def

REMAINDER - THE PART "LEFT OVER"
IN DIVISION

$$23 \div 4$$

$$\begin{array}{r} 5 \text{ R}3 \leftarrow \text{NO MORE R!} \\ 4 \overline{)23} \\ \underline{-20} \\ 3 \leftarrow \text{REMAINDER} \end{array}$$

REMAINDERS AS FRACTIONS

$$139 \div 6$$

$$\begin{array}{r} 23 \frac{1}{6} \\ 6 \overline{)139} \\ \underline{-12} \downarrow \\ 19 \\ \underline{-18} \\ 1 \end{array} = 23 \frac{1}{6}$$

YOU TRY:

1) $154 \div 4 =$

$$\begin{array}{r} 38 \frac{2}{4} \div 2 \\ 4 \overline{)154} \\ \underline{-12} \downarrow \\ 34 \\ \underline{-32} \\ 2 \end{array} = 38 \frac{1}{2}$$

2) $121 \div 8 =$

$$\begin{array}{r} 15 \frac{1}{8} \\ 8 \overline{)121} \\ \underline{-8} \downarrow \\ 41 \\ \underline{-40} \\ 1 \end{array} = 15 \frac{1}{8}$$

* DON'T FORGET TO
SIMPLIFY BY DIVIDING
BY THE GCF!

* NO SIMPLIFYING
REQUIRED BECAUSE
GCF OF 1 AND 8
IS 1!

