

## Written

### Multiplication

$$\begin{array}{r} 5,853 \\ \times 23 \\ \hline 9 \end{array}$$

$$\downarrow$$

$$5,853$$

$$\begin{array}{r} 1 \times 23 \\ \hline 59 \end{array}$$

$$\downarrow$$

$$5,853$$

$$\begin{array}{r} 2 \times 23 \\ \hline ,559 \end{array}$$

$$\downarrow$$

$$5,853$$

$$\begin{array}{r} 2 \times 23 \\ \hline 17,559 \end{array}$$

$$\downarrow$$

$$5,853$$

$$\begin{array}{r} 4 \times 23 \\ \hline 17,559 \end{array}$$

$$\underline{\quad}$$

$$60$$



$$\begin{array}{r} 5,853 \\ \times 23 \\ \hline 17,559 \\ \times 23 \\ \hline 117,060 \\ \hline 134,619 \end{array}$$

$$\begin{array}{r} \uparrow \\ 5,853 \\ \times 23 \\ \hline 17,559 \\ \times 23 \\ \hline 117,060 \end{array}$$

$$\begin{array}{r} \uparrow \\ 5,853 \\ \times 23 \\ \hline 17,559 \\ 1 \times 23 \\ \hline 7,060 \end{array}$$

$$\begin{array}{r} \uparrow \\ 5,853 \\ \times 23 \\ \hline 17,559 \\ 1 \times 23 \\ \hline ,060 \end{array}$$

## Year 5/6 -

@MrH\_T77

# Multiplication and Division

### X and ÷ by 10 / 100 / 1,000

Each column is 10x bigger than the column before

$x/\div 10$  - move **up/down 1** column

$x/\div 100$  - move **up/down 2** columns

$x/\div 1,000$  - move **up/down 3** columns

$$45,000 \div 1,000 = 45$$

$$105 \times 100 = 10,500$$

### Multiples and factors

**Multiple:** Can be divided evenly by **the number**

eg. 8 / 32 / 64 / 800 are all **multiples** of 8

**Factor:** Can be multiplied to create

**the number**

e.g. 1 / 2 / 3 / 4 / 6 / 12 are **factors** of 12

### Mental x/÷

$$300 \times 4 = 3 \times 4 \times 100 = 12 \times 100 = \underline{1,200}$$

$$720 \div 9 = 72 \div 9 \times 10 = 8 \times 10 = \underline{80}$$

$$24 \times 19 = 24 \times 20 - 24 = 480 - 24 = \underline{456}$$

## Written Division

$$\begin{array}{r} 1 \\ 8 \overline{) 8,192} \end{array}$$

How many 8s in 8?

$$8 \div 8 = 1$$

$$\begin{array}{r} 1,0 \\ 8 \overline{) 8,192} \end{array}$$

How many 8s in 1?

$$1 \div 8 = 0 \text{ r}1$$

$$\begin{array}{r} 1,02 \\ 8 \overline{) 8,192} \end{array}$$

How many 8s in 19?

$$19 \div 8 = 2 \text{ r}3$$

$$\begin{array}{r} 1,024 \\ 8 \overline{) 8,192} \end{array}$$

How many 8s in 32?

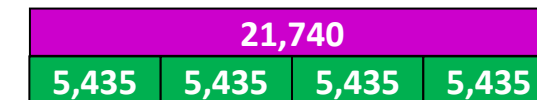
$$32 \div 8 = 4$$

### Inverse

$$5,435 \times 4 = 21,740$$

$$21,740 \div 4 = 5,435$$

$$21,740 \div 5,435 = 4$$



### Order of Operation

**B** - Brackets

**I** - Indices (squares, cubes)

**D/M** - Division / multiplication

**A/S** - Addition / Subtraction

$$(3+7) \times 3 = 30$$

$$3+7 \times 3 = 24$$