# Warm-Up Challenge

## Flashback 4

Year 5 | Week 7 | Day 3

1) Work out $4\frac{1}{5} + 2\frac{3}{20}$

2) Find the sum of $\frac{5}{8}$ and $\frac{1}{4}$

3) Fill in the missing number $\frac{\square}{20} = \frac{4}{5}$

4) Round 474 to the nearest ten.

White Rose Maths

## Long multiplication

Solve $54 \times 32$.

First, multiply $4 \times 2$.

Multiply five 10s $\times$ 2.

The 2 is in the 1s column.

1.
$$
\begin{array}{r}
5\ 4 \\
\times\ 3\ 2 \\
\hline
8
\end{array}
$$

2.
$$
\begin{array}{r}
5\ 4 \\
\times\ 3\ 2 \\
\hline
\boxed{\phantom{0}}\ \ 8
\end{array}
$$

# Long multiplication

The 3 is in the 10s column.

Now multiply 4 × 3 tens.     Multiply 5 tens × 3 tens.

3.
$$
\begin{array}{r}
{}^1 5\,4 \\
\times\ \ 3\,2 \\
\hline
1\,0\,8 \\
2\,0 \\
\end{array}
$$

4.
$$
\begin{array}{r}
{}^1 5\,4 \\
\times\ \ 3\,2 \\
\hline
1\,0\,8 \\
\boxed{\phantom{0}}\ 2\,0 \\
\end{array}
$$

## Long multiplication

Then add the products.

Add
108 + 1620

5.

$$
\begin{array}{r}
{}^{1}5\,4 \\
\times \quad 3\,2 \\
\hline
1\,0\,8 \\
1\,6\,2\,0 \\
\hline
1\,7\,2\,8
\end{array}
$$

So, 54 × 32 =

# Long multiplication

Use long multiplication to solve the problem.

$$\begin{array}{r} 3\ 9 \\ \times\quad 1\ 3 \\ \hline \end{array}$$

Multiply 9 × 3.
Multiply 3 tens × 3.

Multiply 9 × 1 ten.
Multiply 3 tens × 1 ten.

Then add the products.

So, 39 × 13 =

## Long multiplication

Solve 623 × 25.

First, multiply 3 × 5     Multiply 2 tens × 5     Multiply 6 hundreds × 5

**1.**

$$
\begin{array}{r}
{\scriptstyle 1\ 1} \\
6\ 2\ 3 \\
\times\quad 2\ 5 \\
\hline
5
\end{array}
$$

**2.**

$$
\begin{array}{r}
{\scriptstyle 1\ 1} \\
6\ 2\ 3 \\
\times\quad 2\ 5 \\
\hline
1\ 5
\end{array}
$$

**3.**

$$
\begin{array}{r}
{\scriptstyle 1\ 1} \\
6\ 2\ 3 \\
\times\quad 2\ 5 \\
\hline
\boxed{\phantom{0}}\ 1\ 5
\end{array}
$$

**Teaching Input:**

## Long multiplication

Now multiply 3 × 2 tens    Multiply 2 tens × 2 tens    Multiply 6 hundreds × 2 tens

4.
```
    6 2 3
  ×   2 5
  -------
  3 1 1 5
      6 0
```

5.
```
    6 2 3
  ×   2 5
  -------
  3 1 1 5
    4 6 0
```

6.
```
    6 2 3
  ×   2 5
  -------
  3 1 1 5
[     ] 4 6 0
```

## Long multiplication

Then add the products.

Add
3115 + 12460

7.

$$
\begin{array}{r}
6\ 2\ 3 \\
\times \quad 2\ 5 \\
\hline
3\ 11\ 5 \\
1\ 2\ 4\ 6\ 0 \\
\hline
1\ 5\ 5\ 7\ 5
\end{array}
$$

So, 623 × 25 = ☐

# Long multiplication

Use long multiplication to solve the problem.

$$
\begin{array}{r}
2\ 3\ 1 \\
\times \quad 2\ 4 \\
\hline
\end{array}
$$

Multiply 1 × 4
Multiply 3 tens × 4
Multiply 2 hundreds × 4

Multiply 1 × 2 tens
Multiply 3 tens × 2 tens
Multiply 2 hundreds × 2 tens

So, 231 × 24 =

## Practice time

1. Use long multiplication to solve the problems.

a)
$$
\begin{array}{r}
2\ 7 \\
\times\quad 1\ 8 \\
\hline
\end{array}
$$

b)
$$
\begin{array}{r}
5\ 3 \\
\times\quad 4\ 2 \\
\hline
\end{array}
$$

c)
$$
\begin{array}{r}
4\ 6\ 5 \\
\times\quad\ \ 3\ 4 \\
\hline
\end{array}
$$

**1** Work out the multiplications.

a) 6 × 6

6 × 60

b) 12 × 8

12 × 80

c) 32 × 3

32 × 30

d) 7 × 9

7 × 90

e) 21 × 4

21 × 40

f) 48 × 3

48 × 30

How did you work out your answers?

**2** Fill in the missing numbers.

a)

|   |   |   |   |   |
|---|---|---|---|---|
|   |   | 4 | 3 |   |
| × |   | 1 | 3 |   |
|   | 1₁ | 2 | 9 | (43 × 3) |
|   | 4 | 3 | **0** | (43 × 10) |
|   |   |   |   |   |
|   |   |   |   |   |

c)

|   |   |   |   |   |
|---|---|---|---|---|
|   |   |   |   |   |
|   |   |   |   |   |
| × |   |   |   |   |
|   | 1 | 0 | 5 | (21 × 5) |
|   | 4 | 2 | 0 | (21 × 20) |
|   |   |   |   |   |

b)

|   |   |   |   |
|---|---|---|---|
|   |   | 2 | 1 |
| × |   | 1 | 6 |
|   | 1₁ | 2 | 6 |
|   | 2 | 1 | 0 |
|   |   |   |   |
|   |   |   |   |

( ☐ × ☐ )

( ☐ × ☐ )

**3** Brett is calculating 216 × 23

```
      2   1   6
  ×           2   3
  6   4,  8   0
  ₁
      4   3,  2
          ₁
  6   9,  1   2
  ₁
```

What mistake has Brett made?

What is the correct answer?

**4** Work out the multiplications.

a) 142 × 31      b) 337 × 46      c) 214 × 53      d) 24 × 183

**5** Some children are asked to work out 308 × 19

a) Which is the best estimate to use to check their answers?

Work out the answer to your estimate.

300 × 10          300 × 20          310 × 20          300 × 19

b) Explain the reasons for your choice.

c) Here are answers given by three children.

| Nijah | 28,028 |   | Filip | 5,852 |   | Whitney | 2,080 |

From your estimate, who do you think is correct?

d) Work out the correct answer.

e) What mistakes might the others have made?

**6** A football pitch is 128 m long and 52 m wide.

a) What is the area of the pitch?

b) A field is 25,000 m².

How many football pitches could fit in it?

**7** Write >, < or = to complete each statement.

a)    146 × 64  ◯  164 × 46

135 × 53  ◯  153 × 35

b) What do you notice?

Does this always happen?

**8** Miss Rose is ordering some pencils.

She orders 17 of pack A, 14 of pack B and 4 of pack C.

Pack A                Pack B                Pack C

**20**                **100**
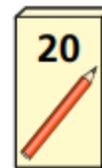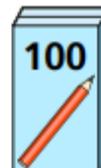
How many pencils does Miss Rose order?

Each pencil costs 16p.

How much does Miss Rose spend on pencils?