

# Gr 5 – 7 Master Multiplication | Part 4 Memo

Only Gr 5 – 7 Learners Must Continue.

## Question 1 | 3-digit × 1-digit Numbers [“Breaking-up” Method]

1. Study:

$$\begin{aligned} \text{a) } 2 \times 300 &= 2 \times 3 \times 100 \\ &= 6 \times 100 \\ &= 600 \end{aligned}$$

$$\begin{aligned} \text{b) } 8 \times 400 &= 8 \times 4 \times 100 \\ &= 32 \times 100 \\ &= 3\,200 \end{aligned}$$

2. Complete:

a)  $400 \times 2 = 800$     b)  $200 \times 3 = 600$     c)  $500 \times 4 = 2\,000$     d)  $800 \times 5 = 4\,000$

$300 \times 3 = 900$      $300 \times 5 = 1\,500$      $400 \times 7 = 2\,800$      $900 \times 8 = 7\,200$

3. Write in expanded form:

a)  $342 = 300 + 40 + 2$     b)  $583 = 500 + 80 + 3$     c)  $746 = 700 + 40 + 6$

4. Complete:

a)  $425$  ( $400 + 20 + 5$ )

$\times 3$  (                      3)

$15$  ( $3 \times 5$ )

$60$  ( $3 \times 20$ )

$+ 1200$  ( $3 \times 400$ )

$1275$

b)  $384$

$\times 2$

$8$  ( $2 \times 4$ )

$160$  ( $2 \times 80$ )

$+ 600$  ( $2 \times 300$ )

$768$

c)  $528$

$\times 3$

$24$  ( $3 \times 8$ )

$60$  ( $3 \times 20$ )

$+ 1500$  ( $3 \times 500$ )

$1584$

d)  $736$

$\times 4$

$24$  ( $4 \times 6$ )

$120$  ( $4 \times 30$ )

$+ 2800$  ( $4 \times 700$ )

$2944$



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5. Complete:

a)  $537$  ( $500 + 30 + 7$ )

$\times 6$  (                      6)

$1\,42$  ( $6 \times 7$ )

$180$  ( $6 \times 30$ )

$+ 3000$  ( $6 \times 500$ )

$3222$

b)  $679$

$\times 4$

$1\,36$  ( $4 \times 9$ )

$280$  ( $4 \times 70$ )

$+ 2400$  ( $4 \times 600$ )

$2716$

c)  $384$

$\times 6$

$1\,24$  ( $6 \times 4$ )

$1\,480$  ( $6 \times 80$ )

$+ 1800$  ( $6 \times 300$ )

$2304$

d)  $769$

$\times 8$

$1\,72$  ( $8 \times 9$ )

$1\,480$  ( $8 \times 60$ )

$+ 5600$  ( $8 \times 700$ )

$6152$

**Question 2 | 3-digit × 1-digit Numbers: Part 1**

["Short" Method]

1. Complete:

$$\begin{array}{r}
 \text{HTU} \\
 \text{a) } 243 \quad (2\text{H} + 4\text{T} + 3\text{U}) \\
 \times 2 \quad ( \quad \quad 2\text{U}) \\
 \hline
 486 \quad (4\text{H} + 8\text{T} + 6\text{U}) \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{HTU} \\
 \text{b) } 334 \\
 \times 2 \\
 \hline
 668 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{HTU} \\
 \text{c) } 232 \\
 \times 3 \\
 \hline
 696 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{HTU} \\
 \text{d) } 302 \\
 \times 3 \\
 \hline
 906 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{HTU} \\
 \text{e) } 234 \\
 \times 2 \\
 \hline
 468 \\
 \hline
 \end{array}$$

2. Study. **Step 1:**

$$\begin{array}{r}
 \text{HTU} \\
 2^1 23 \\
 \times 4 \\
 \hline
 2 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 4 \times 3\text{U} = 12 \\
 \text{and} \\
 12 = 1\text{T} + 2\text{U}
 \end{array}$$

**Step 2:**

$$\begin{array}{r}
 \text{HTU} \\
 2^1 23 \\
 \times 4 \\
 \hline
 92 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 4 \times 2\text{T} = 8\text{T} \\
 \text{and} \\
 8\text{T} + 1\text{T} = 9\text{T}
 \end{array}$$

**Step 3:**

$$\begin{array}{r}
 \text{HTU} \\
 2^1 23 \\
 \times 4 \\
 \hline
 892 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 4 \times 2\text{H} \\
 = 8\text{H}
 \end{array}$$

3. Complete:

$$\begin{array}{r}
 \text{HTU} \\
 \text{a) } 3^1 15 \\
 \times 2 \\
 \hline
 630 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{b) } 3^1 26 \\
 \times 3 \\
 \hline
 978 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{c) } 1^1 24 \\
 \times 4 \\
 \hline
 496 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{HTU} \\
 \text{d) } 2^2 16 \\
 \times 4 \\
 \hline
 864 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{e) } 2^2 15 \\
 \times 4 \\
 \hline
 860 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{f) } 3^2 28 \\
 \times 3 \\
 \hline
 984 \\
 \hline
 \end{array}$$



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4. Study. **Step 1:**

$$\begin{array}{r}
 \text{HTU} \\
 3^2 24 \\
 \times 6 \\
 \hline
 4 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 6 \times 4\text{U} = 24 \\
 \text{and} \\
 24 = 2\text{T} + 4\text{U}
 \end{array}$$

**Step 2:**

$$\begin{array}{r}
 \text{HTU} \\
 13^2 24 \\
 \times 6 \\
 \hline
 44 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 6 \times 2\text{T} = 12\text{T} \\
 12\text{T} + 2\text{T} = 14\text{T} \\
 14\text{T} = 140 \\
 = 1\text{H} + 4\text{T}
 \end{array}$$

**Step 3:**

$$\begin{array}{r}
 \text{Th H T U} \\
 13^1 24 \\
 \times 6 \\
 \hline
 1944 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 6 \times 3\text{H} = 18\text{H} \\
 18\text{H} + 1\text{H} = 19\text{H} \\
 19\text{H} = 1900 \\
 = 1\text{Th} + 9\text{H}
 \end{array}$$

5. Complete:

$$\begin{array}{r}
 \text{a) } 13^3 28 \\
 \times 4 \\
 \hline
 1312 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{b) } 2^5 234 \\
 \times 6 \\
 \hline
 3204 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{c) } 3^8 172 \\
 \times 5 \\
 \hline
 4360 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{d) } 5^7 364 \\
 \times 8 \\
 \hline
 6112 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{e) } 3^7 446 \\
 \times 7 \\
 \hline
 5222 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{f) } 5^4 859 \\
 \times 9 \\
 \hline
 4131 \\
 \hline
 \end{array}$$

**Question 3** |  $300 \times 20$  and  $600 \times 40$  etc.

1. Multiplication by 10 makes a number 10 times bigger:  $100 \times 10 = 1\ 000$

2. Complete: a)  $200 \times 10 = 2\ 000$     b)  $400 \times 10 = 4\ 000$     c)  $900 \times 10 = 9\ 000$

3. Complete:    NB:  $100 \times 10 = 1\ 000$ .

a)  $300 \times 20$

$$= 3 \times 2 \times 100 \times 10$$

$$= 6 \times 1\ 000$$

$$= 6\ 000$$

b)  $200 \times 40$

$$= 2 \times 4 \times 100 \times 10$$

$$= 8 \times 1\ 000$$

$$= 8\ 000$$

c)  $200 \times 30 = 6\ 000$

d)  $400 \times 20 = 8\ 000$

e)  $300 \times 30 = 9\ 000$

4. Complete:

a)  $500 \times 30$

$$= 5 \times 3 \times 100 \times 10$$

$$= 15 \times 1\ 000$$

$$= 15\ 000$$

b)  $400 \times 60$

$$= 4 \times 6 \times 100 \times 10$$

$$= 24 \times 1\ 000$$

$$= 24\ 000$$

c)  $400 \times 30 = 12\ 000$

d)  $700 \times 40 = 28\ 000$

e)  $900 \times 50 = 45\ 000$



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5. Complete:

a)  $500 \times 40$

$$= 5 \times 4 \times 100 \times 10$$

$$= 20 \times 1\ 000$$

$$= 20\ 000$$

b)  $600 \times 50$

$$= 6 \times 5 \times 100 \times 10$$

$$= 30 \times 1\ 000$$

$$= 30\ 000$$

c)  $200 \times 50 = 10\ 000$

d)  $500 \times 80 = 40\ 000$

e)  $400 \times 50 = 20\ 000$

6. Complete:

a)  $340 \times 20$

$$= 34 \times 2 \times 10 \times 10$$

$$= 68 \times 100$$

$$= 6\ 800$$

b)  $230 \times 30$

$$= 23 \times 3 \times 10 \times 10$$

$$= 69 \times 100$$

$$= 6\ 900$$

c)  $110 \times 30 = 3\ 300$

d)  $240 \times 20 = 4\ 800$

e)  $430 \times 20 = 8\ 600$

7. Complete:

a)  $420 \times 30$

$$= 42 \times 3 \times 10 \times 10$$

$$= 126 \times 100$$

$$= 12\ 600$$

b)  $650 \times 20$

$$= 65 \times 2 \times 10 \times 10$$

$$= 130 \times 100$$

$$= 13\ 000$$

c)  $350 \times 60$

$$= 35 \times 6 \times 10 \times 10$$

$$= 210 \times 100$$

$$= 21\ 000$$



**Question 5 | 3-digit × 2-digit Numbers: Part 2**

Do your working out on a separate piece of paper.

1. Complete: [Easy Questions]

a)

$$\begin{array}{r} 432 \\ \times 23 \\ \hline 1296 \leftarrow 3 \times 432 \\ \hline 8640 \leftarrow 20 \times 432 \\ \hline 9936 \\ \hline \end{array}$$

b)

$$\begin{array}{r} 314 \\ \times 13 \\ \hline 942 \leftarrow 3 \times 314 \\ \hline 3140 \leftarrow 10 \times 314 \\ \hline 4082 \\ \hline \end{array}$$

c)  $423 \times 21 = 8883$

d)  $223 \times 14 = 3122$

e)  $424 \times 13 = 5512$

f)  $224 \times 24 = 5376$

g)  $232 \times 16 = 3712$

h)  $243 \times 32 = 7776$

2. Complete: [Challenging Questions]

a)

$$\begin{array}{r} 476 \\ \times 42 \\ \hline 952 \leftarrow 2 \times 476 \\ \hline 19040 \leftarrow 40 \times 476 \\ \hline 19992 \\ \hline \end{array}$$

b)

$$\begin{array}{r} 876 \\ \times 64 \\ \hline 3504 \leftarrow 4 \times 876 \\ \hline 52560 \leftarrow 60 \times 876 \\ \hline 56064 \\ \hline \end{array}$$

c)  $274 \times 53 = 14\,522$

d)  $482 \times 39 = 18\,798$

e)  $497 \times 35 = 17\,395$

f)  $423 \times 78 = 32\,994$

g)  $548 \times 63 = 34\,524$

h)  $763 \times 89 = 67\,907$

3. Calculate how many trees there are in 125 rows with 28 trees in each row.

$$125 \times 28 = 3500 \text{ trees}$$

4. A grocer sells a fruit and veg hamper for R279.

What will 45 hampers cost altogether?  $R279 \times 45 = R12\,555$

5. There are 352 kiwis in a crate.

How many kiwis are there in a dozen of the same crates?

$$352 \times 12 = 4224 \text{ kiwis}$$