

# Gr 5 – 7 Master Multiplication | Part 4

Only Gr 5 – 7 Learners Must Continue.

## Question 1 | 3-digit $\times$ 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)  $400 \times 2 = \dots\dots\dots$     b)  $200 \times 3 = \dots\dots\dots$     c)  $500 \times 4 = \dots\dots\dots$     d)  $800 \times 5 = \dots\dots\dots$

$300 \times 3 = \dots\dots\dots$      $300 \times 5 = \dots\dots\dots$      $400 \times 7 = \dots\dots\dots$      $900 \times 8 = \dots\dots\dots$

3. Write in expanded form:

a)  $342 = 300 + 40 + 2$     b)  $583 = \dots\dots\dots + \dots\dots + \dots\dots$     c)  $746 = \dots\dots\dots + \dots\dots + \dots\dots$

4. Complete:

$$\text{a) } \begin{array}{r} 425 \quad (400 + 20 + 5) \\ \times 3 \quad ( \quad \quad 3) \\ \hline \end{array}$$

$$\begin{array}{r} 15 \quad (3 \times 5) \\ \hline \end{array}$$

$$\begin{array}{r} 60 \quad (3 \times 20) \\ \hline \end{array}$$

$$\begin{array}{r} + 1200 \quad (3 \times 400) \\ \hline \end{array}$$

$$\begin{array}{r} 1275 \\ \hline \end{array}$$

$$\text{b) } \begin{array}{r} 384 \\ \times 2 \\ \hline \end{array}$$

$$\text{c) } \begin{array}{r} 528 \\ \times 3 \\ \hline \end{array}$$

$$\text{d) } \begin{array}{r} 736 \\ \times 4 \\ \hline \end{array}$$



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5. Complete:

$$\text{a) } \begin{array}{r} 537 \quad (500 + 30 + 7) \\ \times 6 \quad ( \quad \quad 6) \\ \hline \end{array}$$

$$\begin{array}{r} 142 \quad (6 \times 7) \\ \hline \end{array}$$

$$\begin{array}{r} 180 \quad (6 \times 30) \\ \hline \end{array}$$

$$\begin{array}{r} + 3000 \quad (6 \times 500) \\ \hline \end{array}$$

$$\begin{array}{r} 3222 \\ \hline \end{array}$$

$$\text{b) } \begin{array}{r} 679 \\ \times 4 \\ \hline \end{array}$$

$$\text{c) } \begin{array}{r} 384 \\ \times 6 \\ \hline \end{array}$$

$$\text{d) } \begin{array}{r} 769 \\ \times 8 \\ \hline \end{array}$$

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

["Short" Method]

1. Complete:

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

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

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

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

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

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:

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

$$\begin{array}{r}
 \text{b) } 326 \\
 \times 3 \\
 \hline \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{c) } 124 \\
 \times 4 \\
 \hline \\
 \hline
 \end{array}$$

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

$$\begin{array}{r}
 \text{e) } 215 \\
 \times 4 \\
 \hline \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{f) } 328 \\
 \times 3 \\
 \hline \\
 \hline
 \end{array}$$



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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:**

$$\begin{array}{r}
 \text{HTU} \\
 1^3 24 \\
 \times 6 \\
 \hline
 44 \\
 \hline
 \end{array}
 \quad
 \begin{array}{l}
 6 \times 2\text{T} = 12\text{T} \\
 12\text{T} + 2\text{T} = 14\text{T} \\
 14\text{T} = 140 \\
 = 1\text{H} + 4\text{T}
 \end{array}$$

**Step 3:**

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

5. Complete:

$$\begin{array}{r}
 \text{a) } 1^3 328 \\
 \times 4 \\
 \hline
 1312 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{b) } 534 \\
 \times 6 \\
 \hline \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{c) } 872 \\
 \times 5 \\
 \hline \\
 \hline
 \end{array}$$

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

$$\begin{array}{r}
 \text{e) } 746 \\
 \times 7 \\
 \hline \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \text{f) } 459 \\
 \times 9 \\
 \hline \\
 \hline
 \end{array}$$

**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)  $400 \times 10 = \dots\dots\dots$  c)  $900 \times 10 = \dots\dots\dots$

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)  $200 \times 40$   
 $= \dots\dots\dots$   
 $= \dots\dots\dots$   
 $= \dots\dots\dots$

c)  $200 \times 30 = \dots\dots\dots$   
 d)  $400 \times 20 = \dots\dots\dots$   
 e)  $300 \times 30 = \dots\dots\dots$

4. Complete:

a)  $500 \times 30$   
 $= 5 \times 3 \times 100 \times 10$   
 $= 15 \times 1\ 000$   
 $= 15\ 000$

b)  $400 \times 60$   
 $= \dots\dots\dots$   
 $= \dots\dots\dots$   
 $= \dots\dots\dots$

c)  $400 \times 30 = \dots\dots\dots$   
 d)  $700 \times 40 = \dots\dots\dots$   
 e)  $900 \times 50 = \dots\dots\dots$



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5. Complete:

a)  $500 \times 40$   
 $= 5 \times 4 \times 100 \times 10$   
 $= 20 \times 1\ 000$   
 $= 20\ 000$

b)  $600 \times 50$   
 $= \dots\dots\dots$   
 $= \dots\dots\dots$   
 $= \dots\dots\dots$

c)  $200 \times 50 = \dots\dots\dots$   
 d)  $500 \times 80 = \dots\dots\dots$   
 e)  $400 \times 50 = \dots\dots\dots$

6. Complete:

a)  $340 \times 20$   
 $= 34 \times 2 \times 10 \times 10$   
 $= 68 \times 100$   
 $= 6\ 800$

b)  $230 \times 30$   
 $= \dots\dots\dots$   
 $= \dots\dots\dots$   
 $= \dots\dots\dots$

c)  $110 \times 30 = \dots\dots\dots$   
 d)  $240 \times 20 = \dots\dots\dots$   
 e)  $430 \times 20 = \dots\dots\dots$

7. Complete:

a)  $420 \times 30$   
 $= 42 \times 3 \times 10 \times 10$   
 $= 126 \times 100$   
 $= 12\ 600$

b)  $650 \times 20$   
 $= \dots\dots\dots$   
 $= \dots\dots\dots$   
 $= \dots\dots\dots$

c)  $350 \times 60$   
 $= \dots\dots\dots$   
 $= \dots\dots\dots$   
 $= \dots\dots\dots$

**Question 4 | 3-digit × 2-digit Numbers: Part 1**

**1. Study: “Breaking-up” Method**

$$\begin{array}{r}
 425 \text{ (} 400 + 20 + 5\text{)} \\
 \times 23 \text{ (} 20 + 3\text{)} \\
 \hline
 15 \text{ (} 3 \times 5\text{)} \\
 \hline
 60 \text{ (} 3 \times 20\text{)} \\
 \hline
 1200 \text{ (} 3 \times 400\text{)} \\
 \hline
 100 \text{ (} 20 \times 5\text{)} \\
 \hline
 400 \text{ (} 20 \times 20\text{)} \\
 \hline
 + 8000 \text{ (} 20 \times 400\text{)} \\
 \hline
 \underline{9775}
 \end{array}$$

Part 1 = 1275

Part 2 = 8500

**“Short” Method**

**Part 1:**

Th H T U	
4 <sup>1</sup> 25	
× 23	
1275	← 3 × 425

**Part 2:**

Th H T U	
4 <sup>1</sup> 25	
× 23	
1275	← 3 × 425
+ 8500	← 20 × 425
9775	

**2. Complete using the “breaking-up” method.**

a) 328 (300 + 20 + 8) × 34 ( 30 + 4) <hr style="border: 0.5px solid black;"/> 32 (4 × 8) <hr style="border: 0.5px solid black;"/> 180 (4 × 20) <hr style="border: 0.5px solid black;"/> 1200 (4 × 300) <hr style="border: 0.5px solid black;"/> 240 (30 × 8) <hr style="border: 0.5px solid black;"/> 600 (30 × 20) <hr style="border: 0.5px solid black;"/> + 9000 (30 × 300) <hr style="border: 0.5px solid black;"/> 11 152 <hr style="border: 0.5px solid black;"/>	b) 438 × 23 <hr style="border: 0.5px solid black;"/> <hr style="border: 0.5px solid black;"/> <hr style="border: 0.5px solid black;"/>	c) 528 × 64 <hr style="border: 0.5px solid black;"/> <hr style="border: 0.5px solid black;"/> <hr style="border: 0.5px solid black;"/>	d) 743 × 86 <hr style="border: 0.5px solid black;"/> <hr style="border: 0.5px solid black;"/> <hr style="border: 0.5px solid black;"/>
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**3. Complete using the “short” method.**

a) 328 × 34 <hr style="border: 0.5px solid black;"/> 1312 [4 × 328] <hr style="border: 0.5px solid black;"/> + 9840 [30 × 328] <hr style="border: 0.5px solid black;"/> 11 152 <hr style="border: 0.5px solid black;"/>	b) 438 × 23 <hr style="border: 0.5px solid black;"/> <hr style="border: 0.5px solid black;"/>	c) 528 × 64 <hr style="border: 0.5px solid black;"/> <hr style="border: 0.5px solid black;"/>	d) 743 × 86 <hr style="border: 0.5px solid black;"/> <hr style="border: 0.5px solid black;"/>
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**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)  $423 \times 21 = \dots\dots\dots$

d)  $223 \times 14 = \dots\dots\dots$

e)  $424 \times 13 = \dots\dots\dots$

f)  $224 \times 24 = \dots\dots\dots$

g)  $232 \times 16 = \dots\dots\dots$

h)  $243 \times 32 = \dots\dots\dots$

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)  $274 \times 53 = \dots\dots\dots$

d)  $482 \times 39 = \dots\dots\dots$

e)  $497 \times 35 = \dots\dots\dots$

f)  $423 \times 78 = \dots\dots\dots$

g)  $548 \times 63 = \dots\dots\dots$

h)  $763 \times 89 = \dots\dots\dots$

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

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

What will 45 hampers cost altogether? .....

5. There are 352 kiwis in a crate.

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

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