

Multiplying By 125:

A. Multiplying by 125 is easy if you know that $125 = 1000 \div 8$. So to multiply by 125, you should divide by 8 and use the following rules on the remainder ($n \text{ MOD } 8$):

1. If $(n \text{ MOD } 8) = 0$ then write 000.
2. If $(n \text{ MOD } 8) = 1$ then write 125.
3. If $(n \text{ MOD } 8) = 2$ then write 250.
4. If $(n \text{ MOD } 8) = 3$ then write 375. *Notice this is $125r$ where r is the remainder.
5. If $(n \text{ MOD } 8) = 4$ then write 500.
6. If $(n \text{ MOD } 8) = 5$ then write 625.
7. If $(n \text{ MOD } 8) = 6$ then write 750.
8. If $(n \text{ MOD } 8) = 7$ then write 875.

B. Examples:

Ex [1] $125 \times 26 =$ _____.

- a) $26 \div 8 = 3$ with a remainder of 2. Write 3.
- b) By (3.) we write 250.
- c) The answer is 3250.

Ex [2] $487 \times 125 =$ _____.

- a) $487 \div 8 = 60$ with a remainder of 7. Write 60.
- b) By (8.) we write 875.
- c) The answer is 60875.