

STARS – BOOK 2

Division and Mixed Operations

Module 2: Arithmetic Operations

2012-13-300-NF

L1 Multiplication Patterns

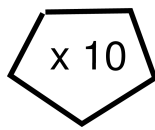
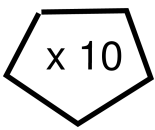
1.1 Multiplication

When two numbers are multiplied the result is called the **product** of the two numbers and each number is called a **factor** of the product.

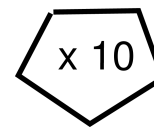
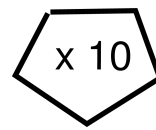
For example, $8 \times 7 = 56$. So the product of 8 and 7 is 56. 8 and 7 are the factors of 56.

If you multiply one factor by 10, the product is also multiplied by 10.

$$8 \times 7 = 56$$



$$8 \times 7 = 56$$

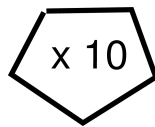
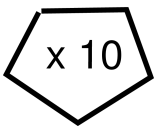


$$80 \times 7 = 560$$

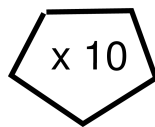
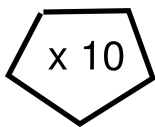
$$8 \times 70 = 560$$

This is how you can get from $8 \times 7 = 56$ to 80×700 in steps. At each step multiply one factor by 10.

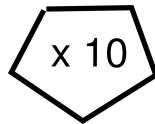
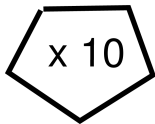
$$8 \times 7 = 56$$



$$80 \times 7 = 560$$



$$80 \times 70 = 5600$$



$$80 \times 700 = 56,000$$

1.1.1 Complete these steps from 3×4 to 300×40 .

$$3 \times 4 =$$

$$30 \times 4 =$$

$$300 \times 4 =$$

$$300 \times 40 =$$

1.1.2 Work these out using the step-by-step method if you like

a. 70×50

b. 400×700

c. 80×5000

d. $30 \times 40,000$

e. 600×500

f. $30 \times 40 \times 50$

g. $800 \times 60 \times 20$

1.1.3 Use the above technique for arriving at the answers for the following problems.

a. If a person's heart beats 70 times every minute, how many times does it beat in
i. 1 hour ii. 200 hours

b. In a factory storeroom there are 30 shelves. Each shelf has 80 boxes on it and each contains 500 bolts. How many bolts are there in the storeroom?

c. A book has 300 pages each with 40 lines of print. There are about 10 words on each line. Roughly how many words are there in the whole book?

1.1.4 Write down the missing number in each of these.

a. $80 \times ? = 48,000$

b. $? \times 400 = 2,00,000$

c. $? \times 5000 = 40,00,000$

d. $700 \times ? = 6,30,00,000$

End of L1