FLORENCE INTERNATIONAL SCHOOL
CLASS- VII
WORKSHEET NO: 13
MATHS

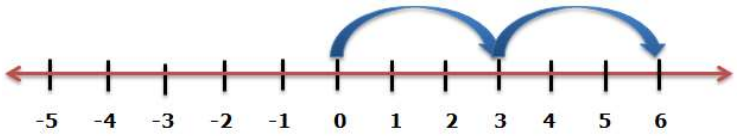
NAME: **DATE: 16/04/2020**

Now let's understand **Multiplication**of Integers:

Multiplication of integers on Number Line

Multiplying 2 positive integers2 x 3

To represent this on the number line, we start at 0 and put 2 groups of 3 of the number line.



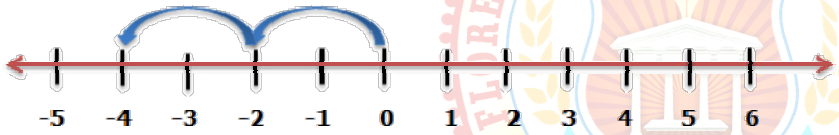
We end up at 6. So, the product is 6.

Therefore, 2 x 3 = 6 (Positive × Positive = Positive)

Multiplying a positive integer and a negative integer

2 x (-2)

To represent this on the number line, just start at 0 and put 2 groups of -2 of the number line.



We end up at (-4). So, the product is (-4).

Therefore, 2 x (-2) = 4 [(Positive × Negative) or (Negative x Positive) = Negative]

Product of a positive integer and a negative integer without using number line

Steps

1. Multiply them as whole numbers.
2. Put a minus sign (–) before the product.

Example: 12 × (–15)

Solution: First find the product of whole numbers i.e. 12 x 15 = 180

Now, put a minus sign (–) before the product = -180

Product of two negative integers without using number line

Steps

1. Multiply the two negative integers as whole numbers.
2. Put the positive sign before the product because product of two negative integers is a positive integer.

In general, for any two positive integers a and b, (– a) × (– b) = a × b

Example: (-9) × (–11)

Solution: First multiply the two negative integers as whole numbers i.e. 9 x 11= 99

Now, put a minus sign (+) before the product = +99

Product of three or more Negative Integers

If the number of negative integers in a product is even, then the product is a positive integer; if the number of negative integers in a product is odd, then the product is a negative integer.

This means,

(a) The product of two negative integers is a positive integer.

(b) The product of three negative integers is a negative integer.

(c) Product of four negative integers is a positive integer.

Let's understand this with following examples.

Example: (a) (– 4) × (–3)

(b) (– 4) × (–3) × (–2)

(c) (– 4) × (–3) × (–2) × (–1)

Solution: (a) (– 4) × (–3) = 12 (number of negative integers in a product is even, so the product is a positive integer)

(b) (– 4) × (–3) × (–2) = [(– 4) × (–3)] × (–2) = 12 × (–2) = – 24 (the number of negative integers in a product is odd, so the product is a negative integer)

(c) (– 4) × (–3) × (–2) × (–1) = [(– 4) × (–3) × (–2)] × (–1) = (–24) × (–1) (number of negative integers in a product is even, so the product is a positive integer)

Q1. Multiply.

(−5)×(−7)	
(−9)×(6)	
(9)×(−4)	
(8)×(−7)	
(−124)×(−1)	
(−12)×(−7)	
(−63)×(−7)	
(−7)×(15)	

Q2. Do as directed:

a) Find the product of: 16 x (-36) + (-36) x -46
b) Find the product of: 8 x (-35) x ((-125)
c) Find the product of: 115 x (-40) +((-115) x (60)
d) Find the product of: -1 x -1
e) Verify if both sides are equal: 15 x (6 +(-4)) = (15 x 6) + (15 x -4)
f) Verify if both sides are equal: (-22) x (-4 +(-3)) = (-22)x(-4) +(-22) x(-3)
g) Find the product of: 26 x10 and -5
h) Find the product of: _ 12 x 2x -10
i) Find the product of: 7 x (-22)
j) Find the product of: -45 x-12