

Even and Odd numbers

Integers can be Odd or Even.

An even integer is one that is divisible by 2.

Zero is an even integer.

Even and odd integers can be positive or negative.

Odd numbers: ..., -5, -3, -1, 1, 3, 5, ...

Even numbers: ..., -4, -2, 0, 2, 4, ...

Product of any non-zero number with an even number is an even number.

$$-18 \times 2 = -36 \quad -11 \times 2 = -22$$

Product of any two odd numbers is an odd number.

$$3 \times 7 = 21$$

$$3 \times 2 = 6$$

$$11 \times 13 = 143$$

Sum of two even numbers or two odd numbers will always give an even result.

$$\underline{14} + \underline{8} = 32 \quad \underline{13} + \underline{17} = 30$$

Sum of one odd and one even number will always give an odd result.

$$\underline{14} + \underline{13} = 27$$

Even numbers can be written in the form $n = 2k$ where k is an integer. It means even numbers are perfectly divided by 2.

$$n = \underline{2k} = 2(11) = 22$$

Odd numbers can be written in the form $n = 2k + 1$. It means odd numbers leave a remainder of 1 when divided by 2.

$$n = 2k + 1 = 2(9) + 1 = 19$$

$$\frac{59}{2} = 29 \text{ R } 1$$

