Brainbox learn easy

Chapter 09

# ALGEBRAIC EXPRESSION & IDENTITIES

**Example- 7:**

What must be added to $4x^2-16x+10$ to make it a whole square ?

**Solution**:

We have,

$$4x^2-16x+10=(2x)^2-2.(2x)\times 4+10.....(1)$$

By above expression

First term = $2x$,

Second term = 4.

To make the given expression on whole square.

We must have $(4)^2=16$ in place of 10.

Hence, we must add '6' to it to make a perfect square.

Adding '6' on both sides of Eq(1).

$$4x^2-16x+10+6=(2x)^2-2(2x)\times 4+10+6$$

$$=(2x)^2-2(2x)\times 4+16$$

$$4x^2-16x+10+6=(2x)^2-2(2x)\times 4+(4)^2$$

$$\boxed{4x^2-16x+10+6=(2x-4)^2}$$