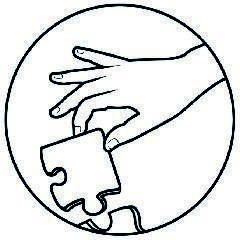
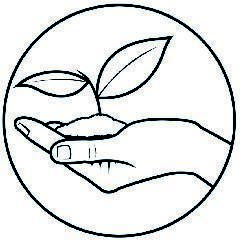


| **Lesson** | **Factoring:**  **Perfect Square Trinomials** |
| --- | --- |



**What’s In**

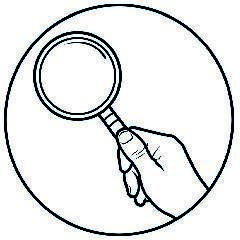
You have learned in the previous lesson factoring sum or difference of two cubes. Note that learning the cube roots of the previous lesson played an important aspect of determining the factors of the expression. Likewise, in our new topic, you need again to master the roots of the expressions. Only that its square roots like the second topic of this module which was factoring difference of two squares. For this lesson, we will factor perfect square trinomials.



**What’s New**

**Directions: Recall your table of squares and roots.**

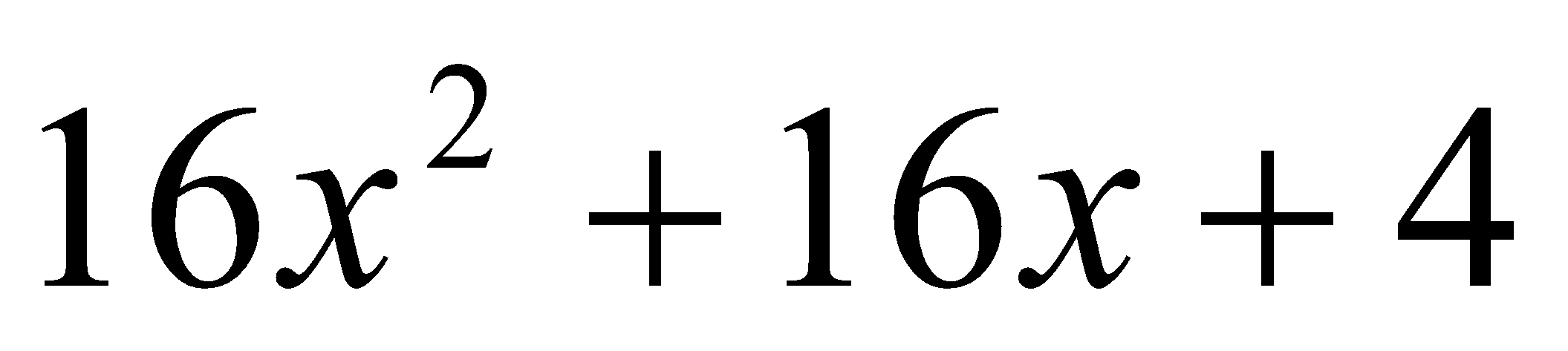
| Square Roots | Squares |  | Square Roots | Squares |  | Square Roots | Squares |  | Square Roots | Squares |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***1*** | 1 | ***6*** | 36 | ***11*** | 121 | ***16*** | 256 |
| ***2*** | 4 | ***7*** | 49 | ***12*** | 144 | ***17*** | 289 |
| ***3*** | 9 | ***8*** | 64 | ***13*** | 169 | ***18*** | 324 |
| ***4*** | 16 | ***9*** | 81 | ***14*** | 196 | ***19*** | 361 |
| ***5*** | 25 | ***10*** | 100 | ***15*** | 225 | ***20*** | 400 |
| **Square Roots** | **Squares** |  | **Square Roots** | **Squares** |  |
| ***N*** | n2 |  | ***n6*** | n12 |
| ***n2*** | n4 | ***n7*** | n14 |
| ***n3*** | n6 | ***n8*** | n16 |
| ***n4*** | n8 | ***n9*** | n18 |
| ***n5*** | n10 | ***n10*** | n20 |



**What Is It**



**Formula:**

**Factor** 

Here are the steps in factoring perfect square trinomials.

| **Steps** | **Solution** |
| --- | --- |
| 1. Given Problem 2. First term   Last term   1. Rewrite the 1st and last terms in squared form. 2. Get the square roots of the 1st and last terms 3. Solve the middle term by finding the product of twice the root of 1st term and the last term 4. List down the square roots  * Copy the symbol of the 2nd term of the trinomial to separate the terms of your factors. | * 16x2 + 16x + 4 * 16x2 * 4 * 16x2 = (4x)2; 4 = 22 * The square root of (4x)2is 4x while   is 2  Note: is read as the square root of 22   * 2(4x)(2) = 16x (the same in the second term of the given trinomial) * (4x+2) (4x+2) factoring by quadratic trinomials * (4x+2)² factoring by perfect square trinomial |