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Module 12 Simplifying Algebraic Expressions
by Factoring Polynomials
Lesson 3 Factoring The Difference of Two
Squares

**guided
notes**

Lesson Objectives

- Factor the difference of two squares.
- Recognize first 15 perfect squares
- Recognize the sum of two squares is not factorable.

The rule for factoring the difference of two squares, $a^2 - b^2$ is for any expressions a and b , $a^2 - b^2 = (a + b)(a - b)$.

Square the following numbers:

$1^2 = \underline{1}$ $6^2 = \underline{36}$ $11^2 = \underline{121}$

$2^2 = \underline{4}$ $7^2 = \underline{49}$ $12^2 = \underline{144}$

$3^2 = \underline{9}$ $8^2 = \underline{64}$ $13^2 = \underline{169}$

$4^2 = \underline{16}$ $9^2 = \underline{81}$ $14^2 = \underline{196}$

$5^2 = \underline{25}$ $10^2 = \underline{100}$ $15^2 = \underline{225}$

For any expressions a and b , $a^2 + b^2$

cannot be factored unless a GCF can be removed

1 Factor, if possible: $b^2 - 100 =$
 $\underline{(b + 10)(b - 10)}$

2 Factor, if possible: $1 - z^2 =$
 $\underline{(1 + z)(1 - z)}$

3 Factor, if possible: $100h^2 - 49 =$
 $\underline{(10h + 7)(10h - 7)}$

