

Difference of Squares

March 4, 2020 1:19 PM

Recall :

$$(a+b)(a-b)$$
$$a^2 - \cancel{ab} + \cancel{ab} - b^2$$
$$a^2 - b^2$$

⊗ A difference of squares $a^2 - b^2$ always has a subtraction of 2 perfect squares and follows this pattern:

$$a^2 - b^2 = (a+b)(a-b)$$

* Always check for a GCF first *

Ex. Factor fully :

① $x^2 - 64$
 $(x+8)(x-8)$

② $9y^2 - 100$
 $(3y+10)(3y-10)$

③ $\frac{2m^2}{2} - \frac{98}{2}$

$$2(m^2 - 49)$$

$$2(m+7)(m-7)$$

④ $\frac{121a^2}{11a} - \frac{225b^2}{15b}$

$$(11a+15b)(11a-15b)$$

⑥ $(x^4 - 1)$

$$(x^2+1)(x^2-1)$$

~~~~~ FACTOR AGAIN

⑤  $\frac{250x^4}{10x^2} - \frac{360x^2}{10x^2}$

$$\frac{25x^2}{10x^2}$$

$$\frac{-36}{10x^2}$$

mmmm FACTOR AGAIN

$$10x^2 \left( \underset{5x}{25x^2} - \underset{6}{36} \right)$$

$$(x^2+1)(x+1)(x-1)$$

$$10x^2 (5x+6)(5x-6)$$