∐lulumath

Factoring Completely Video Notes

<u>Video Link</u>

Factoring Completely

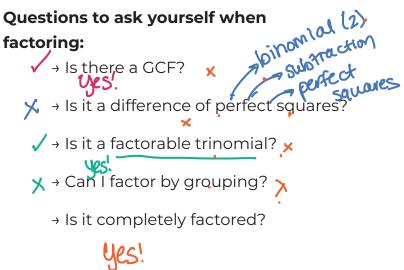
What background knowledge will I need?

- Factoring:
 - GCF
 - Difference of Perfect Squares
 - Trinomials (3 separate videos unFOIL, Geometric Model, Decomposition)
 - Factoring by Grouping

Factor:

 $5x^{2} + 75x + 180$ GCF $5(x^{2} + 15x + 30)$ 5(x + 3)(x + 13) 36 7 + 3x + 130 313 312 7 + 9 96

$$5(x+3)(x+1a)$$



Factor:

$$-12x^{3}y + 26x^{2}y - 10x^{2}y$$
GCF:

$$-2xy((6x^{2} - 13x + 5))$$
Factor trinomial

Questions to ask yourself when factoring:

✓→ Is there a GCF?

x → Is it a difference of perfect squares?-

 $\begin{array}{c} \underbrace{6}_{1} & \underbrace{5}_{4} \\ 1 & 5 \\ 3 & 1 \\ 3 & 4 \end{array}$ Is it a factorable trinomial? $\begin{array}{c} \underbrace{5}_{1} & \xrightarrow{5}_{4} \\ 1 & 5 \\ x \end{array}$ Can I factor by grouping?

→ Is it completely factored?•

Factor:

 $a^{3}b^{2} + 3a^{2}b^{2}c - 5a^{2}b - 15abc$

GCF:

$$ab(a^2b+3abc-5a-15c)$$

Factor by grouping:
 $ab(a^2b+3abc-5a-15c)$
 $ab(a+3c)-5(a+3c)$
 $ab(a+3c)(ab-5)$

Questions to ask yourself when factoring:

- ↓ → Is there a GCF? ____
- yes! \checkmark > Is it a difference of perfect squares?
- ★ → Is it a factorable trinomial? —
- → Can I factor by grouping?—
 - → Is it completely factored?

ab(a+3c)(ab-5)