lulumath

Challenging Factoring Completely Problems Part II

Video Notes

Video Link

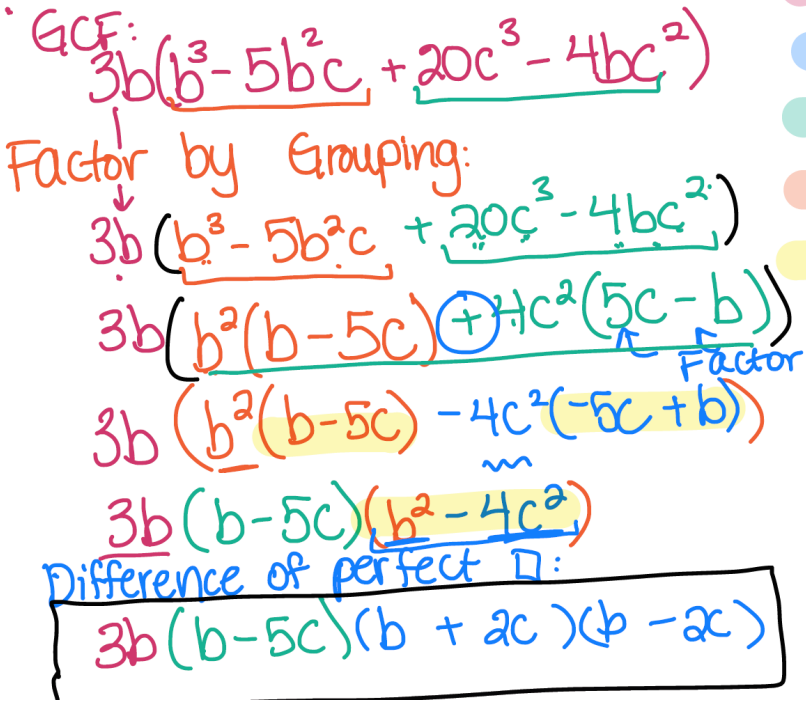
Challenging Factoring Completely Problems

What background knowledge will I need?

- Factoring Completely

Factor:

$3b^4 - 15b^3c + 60bc^3 - 12b^2c^2$



Questions to ask yourself when factoring:

- ✓ → Is there a GCF?
- → Is it a difference of perfect squares?
- → Is it a factorable trinomial?
- → Can I factor by grouping?
- → Is it completely factored? Yes!

Factor:

$(x^2 - 3x)^2 - 14(x^2 - 3x) + 40$

Factor Trinomial:

Let $u = x^2 - 3x$ (substitution)

$u^2 - 14u + 40$

$(u - 4)(u - 10)$

40
1 | 40
2 | 20
4 | 10
5 | 8

Substitute $x^2 - 3x$ in for u.

$(x^2 - 3x - 4)(x^2 - 3x - 10)$

Factor trinomials:

$(x + 1)(x - 4)(x - 5)(x + 2)$

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- → Is it completely factored?

Yes!