OBJECTIVE:

Vocabulary

Factor:

Constant:

Coefficient:

When factoring **ALWAYS** look for a _____ _____ _____ or __ __ __!!!

Factoring Identities

1.

2.

3.

EXAMPLES

Factor each expression using the polynomial identities where possible. If you used an identity, write the identity you used. Show work if it is not an identity!

1. $x^2 + 3x + 2$ 2. $3x^2 - x - 2$ 3. $4x^2 - 16$

4. $4x^2 + 9$ 5. $4x^2 - 12x + 9$ 6. $27x^3 + 8$

7. $8x^3 - 125$

8. $32x^3 - 4y^3$

9. $6x^2 - 4x - 16$

These are quadratic in form. Factor the same way, just change the variable.

10. $x^4 - 25$

11. $5x^6 + 7x^3 + 2$

12. $2x^2 - 9x + 6$

Expand the product using polynomial identities, if possible. Show work if it is not an identity!

13. $(5x - 6)(5x + 6)$

14. $(4x + 5)^2$

15. $(2x - 5)^3$