

Divide Using Long division

1. $(3x^2 + 10x - 8) \div (x + 4)$

Divide Using Synthetic division(Check for placeholders)

2. $(x^2 - 16) \div (x + 3)$

3. $(x^3 + 64) \div (x + 4)$

Factor the Following Binomials.

GCF

4. $24x + 48$

5. $5a^2 + 10a$

Difference of Squares

☆ How can you tell if a polynomial is a difference of squares?

6. $x^2 - 1$

7. $x^2 - 9$

8. $81x^2 - 25$

9. $2x^2 - 32$Pull out the GCF first!!!!

Basic Trinomials

☆ How can you tell if a polynomial is a Basic trinomial?

10. $x^2 - 11x + 24$

11. $b^2 + 6b - 16$

12. $x^2 + 5x - 36$

Complex Trinomials (use the box method)

13. $3x^2 - 10x + 8$

Sum and Difference of Cubes.

Sum of Cubes: $x^3 + y^3 = (x + y)(x^2 - xy + y^2)$

Difference of Cubes: $x^3 - y^3 = (x - y)(x^2 + xy + y^2)$

14. $x^3 + 8$

15. $x^3 - 64$

16. $2x^3 - 128$ pull out the gcf first

Factor By Grouping

17. $x^3 + 6x^2 + 7x + 42$

18. $x^3 + 4x^2 - 9x - 36$