

FACTORING WORKSHEET**Show all work on separate paper.**I. Factoring using the GCF
(Greatest Common Factor):ANSWERS

1. $2xy^3 - 10x$ _____

2. $6a^2b + 18ab^3$ _____

3. $12cd^3 - 8c^2d^2 + 10c^5d^3$ _____

4. $3a^2bx + 15cx^2y + 25ad^3y$ _____

II. Factoring by Grouping:

5. $8yz - 6z - 12y + 9$ _____

6. $3ax - 15a + x - 5$ _____

7. $7ac^2 + 2bc^2 - 7ad^2 - 2bd^2$ _____

8. $8x^2 + 8xy + 8xz + 3x + 3y + 3z$ _____

III. Factoring Special Products:

9. $16a^2 + 25b^2$ _____

10. $3m^2 - 3n^2$ _____

11. $y^4 - z^2$ _____

12. $3x^2 - 27y^2$ _____

13. $z^3 + 125$ _____

14. $t^3 - 8$ _____

15. $p^4 - 1$ _____

16. $x^4 - 81$ _____

IV. Factoring Trinomials

ANSWERS

17. $x^2 + 7x + 6$ _____

18. $z^2 - 4z - 12$ _____

19. $z^2 + 12z + 36$ _____

20. $x^2 - 6x + 9$ _____

21. $3n^2 + 21n - 24$ _____

22. $2a^2 + 3a + 1$ _____

23. $2b^2 + 13b - 7$ _____

24. $12m^2 - m - 6$ _____

V. Simplify, assuming that no denominator equals 0:

25. $\frac{x^2 + 4x + 3}{x^2 - x - 12}$ _____

26. $\frac{x^2 + 4x - 5}{x^2 - 7x + 6}$ _____

27. $\frac{x^2 - 25}{x^2 + 3x - 10}$ _____

28. $\frac{x^2 - 6x + 8}{x^3 - 8}$ _____

29. $\frac{x^2 - 2x - 8}{x^2 - 5x - 14}$ _____

30. $\frac{2y^2 + 8y}{y^2 - 16}$ _____