

Name _____

Date _____

Factoring & Solving Polynomials Worksheet

For #1-13, factor each polynomial using any method.

1. $x^3 - 8$

1. _____

2. $10x^3 + 20x^2 + x + 2$

2. _____

3. $4x^4 - 5x^2 - 9$

3. _____

4. $x^4 - 256 = 0$

4. _____

5. $3x^3 - 6x^2 + x - 2$

5. _____

6. $x^4 + 10x^2 + 16$

6. _____

7. $32x^5 - 51x^3 - 27x$

7. _____

8. $216x^3 + 1$

8. _____

9. $32x^3 - 4$

9. _____

10. $2x^3 - x^2 + 2x - 1$

10. _____

11. $3x^3 - 2x^2 - 9x + 6$

11. _____

12. $125x^3 - 8$

12. _____

13. $2x^3 + 54$

13. _____

For #14-27, solve (find the zeros of the function by factoring).

14. $2x^3 - 6x^2 = 0$ 14. _____

15. $3x^4 + 15x^2 - 72 = 0$ 15. _____

16. $x^3 + 2x^2 - x = 2$ 16. _____

17. $x^4 + 7x^3 - 8x - 56 = 0$ 17. _____

18. $2x^4 - 26x^2 + 72 = 0$ 18. _____

19. $3x^7 - 243x^3 = 0$ 19. _____

20. $x^3 + 3x^2 - 2x - 6 = 0$ 20. _____

21. $8x^3 - 1 = 0$ 21. _____

22. $x^3 + 8x^2 = -16x$ 22. _____

23. $x^3 - 5x^2 + 5x - 25 = 0$ 23. _____

24. $3x^4 + 3x^3 = 6x^2 + 6x$ 24. _____

25. $x^4 + x^3 - x = 1$ 25. _____

26. $81x^4 - 16 = 0$ 26. _____

27. $2x^5 - 12x^3 = -16x$ 27. _____