3.3

Factoring Special Cases

SCORE: /

2023-2024

Name _____ Date _____ Period _____

Identify what special case is seen in the problem. Factor completely.

1. $x^2 - 100$

Case:

2. $x^3 - 1$

Case:

3. $x^3 + 64$

Case:

4. $49x^2 - 36$

Case:

5. $1 - 81x^2$

Case:

6. $x^3 - 27$

Case:

7. $81x^2 - 16$

Case:

8. $8x^3 + y^3$

Case:

9. $x^2 + 25$

Case:

10. $1 + 8x^3$

Case:

11. $27 - x^3$

Case:

12. $4x^2 - 1$

Case:

Factor completely.

13. $27x^3 - 125$

14. $8x^3 + 27$

15. $64 + 27x^3$

16. $4x^3 + 108y^3$

17. $4x^2 - 9y^2$

18. $2x^3 - 32x$

19. $x^6 + 8$

20. $x^2 - 1$

21. $2x^6 - 8$

22. $27x^6 - 8y^3$

23. $4x^4 - 9y^6$

24. $2x^6 - 2$

Factor completely. Remember to look for a GCF first. If it doesn't factor, write prime.

25. $10x^3 - 5x$

26. $x^2 + 23x - 50$

27. $x^2 - x - 20$

28. $6x^2 - 13x - 5$

29. $2x^2 - 12x + 18$

30. $5x^2 + 20x + 50$

Solve.

31. $x^2 - 4 = 0$

32. $2(x-3)^2 - 3 = 15$

33. $4\sqrt[3]{3x+4} + 5 = -3$