

Name _____ Class _____ Date _____

Factor each expression.

1. $3h^2 + 30h + 75$

2. $2v^2 - 28v + 98$

3. $d^2 - 22d + 40$

4. $3m^2 + 15m + 12$

5. $10q^2 + 60q + 90$

6. $p^2 - 24p + 144$

7. $36x^2 + 60x + 25$

8. $64x^2 + 48x + 9$

9. $49n^2 + 14n + 1$

10. $16s^2 - 81$

11. $25r^2 - 80r + 64$

12. $9g^3 - 24g^2 + 16g$

13. $144f^2 - 24f + 1$

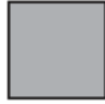
14. $4a^2 - 36a + 81$

15. $49d^2 - 84d + 36$

The given expression represents the area. Find the side length of the square.



16. $64x^2 + 80x + 25$



17. $9y^2 - 24y + 16$



18. $4t^2 + 36t + 81$

19. Error Analysis Describe and correct the error made in factoring the expression at the right.

~~$$\begin{aligned} 175x^2 - 28 &= 7(25x^2 - 4) \\ &= 7(5x - 2)(5x - 2) \\ &= 7(5x - 2)^2 \end{aligned}$$~~

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Factor each expression.

20. $m^2 - 49$

21. $c^3 + 1000$

22. $100p^2 - 16$

23. $8a^3 - 125$

24. $64n^3 - 1$

25. $25x^2 - 144$

26. $250g^3 + 16$

27. $2d^3 - 54$

28. $27x^2 - 48$

29. Writing Explain how to recognize a perfect-square trinomial.

30. Writing The area of a square parking lot is $49p^4 - 84p^2 + 36$. Explain how you would find the length of the parking lot.