NAME _____ DATE _____ PERIOD _____

Paper Practice 10.6
Factoring Quadratic Trinomials

Examples 1–4

Factor each polynomial, if possible. If the polynomial cannot be factored using integers, write *prime*.

1. $a^2 + 15a + 56$

2. $b^2 - b - 72$

3. $c^2 - 19c + 60$

4. $d^2 + 5d - 36$

5. $z^2 + 6z - 5$

6. $f^2 + 10f + 21$

7. $g^2 - 6g - 27$

8. $h^2 - 13h + 22$

Example 5

9. **ART** An artist wants to frame a square painting. The area of the painting is $x^2 - 10x - 39$ square inches, and the frame is 3 inches wide on all sides. Write an expression for the total area of the framed painting in terms of x.

10. **CEREAL** The volume of a box of cereal in square inches can be represented by the expression $2x^2 + 30x + 108$. Factor the expression.

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Examples 6 and 7

Factor each polynomial, if possible. If the polynomial cannot be factored using integers, write *prime*.

11. $5x^2 + 17x + 6$

12. $2x^2 - 9x + 7$

13. $6x^2 + 4x - 16$

14. $2x^2 - 5x + 7$

15. $4x^2 + 23x + 15$

16. $2x^2 - 5x - 63$

17. $6x^2 + 34x - 12$

18. $5x^2 - x - 22$

19. $2x^2 + 9x + 4$

20. $4x^2 + 13x - 12$