

NAME _____

Module 12 Simplifying Algebraic Expressions by Factoring Polynomials

Lesson 4 Factoring $x^2 + bx + c$



**additional
practice**

Factor, if possible.

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

$(x + 2)(x + 1)$

3. $a^2 + 12a + 20$

$(a + 10)(a + 2)$

5. $p^2 - 10p + 24$

$(p - 6)(p - 4)$

7. $y^2 - 8y + 7$

$(y - 7)(y - 1)$

9. $t^2 - 5t + 24$

Cannot be factored; prime

11. $c^2 - 14c + 48$

$(c - 8)(c - 6)$

13. $v^2 - v - 6$

$(v - 3)(v + 2)$

15. $d^2 - 14d - 51$

$(d - 17)(d + 3)$

17. $x^2 - 24x - 81$

$(x - 27)(x + 3)$

19. $p^2 + 2p - 8$

$(p + 4)(p - 2)$

2. $n^2 + 7n + 12$

$(n + 4)(n + 3)$

4. $k^2 + 6k + 9$

$(k + 3)^2$ or $(k + 3)(k + 3)$

6. $w^2 + 15w + 36$

$(w + 12)(w + 3)$

8. $b^2 - 8b + 15$

$(b - 3)(b - 5)$

10. $z^2 - 13z + 22$

$(z - 11)(z - 2)$

12. $m^2 - 11m + 24$

$(m - 8)(m - 3)$

14. $g^2 - 2g - 15$

$(g - 5)(g + 3)$

16. $f^2 - 22f - 72$

Cannot be factored; prime

18. $n^2 - 21n - 100$

$(n - 25)(n + 4)$

20. $w^2 + w - 12$

$(w + 4)(w - 3)$

21. $y^2 + 11y - 26$

$(y + 13)(y - 2)$

23. $k^2 + 11k - 42$

$(k + 14)(k - 3)$

22. $a^2 + 4a - 32$

$(a + 8)(a - 4)$

24. $z^2 + 10z - 21$

Cannot be factored; prime
