

2.2

Name _____ Date _____ Period _____

Factoring Trinomials

Simplify.

1. $(x-7)(x-8)$

2. $(3x-2)(x+3)$

3. $(2x+1)(x-3)$

Complete the factoring of each trinomial.

4. $x^2 + 9x + 8 = (x + \underline{\quad})(x + 8)$

5. $t^2 + 4t - 60 = (t - 6)(t \underline{\quad} \underline{\quad})$

Factor each trinomial.

6. $x^2 - 15x + 56$

7. $3x^2 + 7x - 6$

8. $2x^2 - 5x + 3$

9. Look at questions 1 and 6, then look at questions 2 and 7. Write in complete sentences what the relationship is between the questions and answers.

Factor each trinomial.

10. $x^2 - 11x + 28$

11. $x^2 + 13x - 30$

12. $7x^2 - 22x + 3$

13. $6x^2 + 11x + 4$

14. $9c^2 - 6c + 1$

15. $x^2 - 30x + 225$

Factor each polynomial completely. If it doesn't factor, write prime.

16. $5x^2 + 5x$

17. $x^2 + 12x - 36$

18. $3x^2 + 21x - 24$

19. $c^2 + 4ct + 4t^2$

20. $2x^2 + 3x + 10x + 15$

20. $6y^2 + 13y + 6$

21. $2x^3 - 14x$

22. $6x^2 + 27x - 15$

23. $-q^2 - 2q + 24$

24. Factor $y^2 + 8y - 16$.

25. Factor $n^2 - 8n + 16$.

26. Looking at questions 24 and 25, why does one trinomial factor and the other trinomial does not?

Solve by factoring. (Find the x-intercepts.)

27. $2x^2 - x - 10 = 0$

28. $x^2 - x - 2 = 0$

29. $6x^2 - 14x - 12 = 0$

30. $6x^2 + 11x + 4 = 0$

31. $9x^2 - 12x + 4 = 0$

32. $2x^2 - 9x = 0$