GCF (Greatest Common Factor)

Find the GCF of each pair of mononomials.

1. 24, 48
2. $2x$, $3x^2$
3. a^2b^3, ab^2
4. $42a^2bc^3$, $63ab^3c^2$

Factor using the GCF.

5. $15m^2 - 9$
6. $5x^2 + 7x$
7. $5x^2 + 10x$
8. $4x^5 - 6x^3 + 14x$
9. $28a^5 - 12a^3 + 20a^2$
10. $8a^2bc^2 - 12ab^2c^2$

Difference of Two Squares

Factor and check.

11. $m^2 - 25$ 12. $9a^2 - 100$ 13. $16x^2 - 1$ 14. $64u^2 - 25v^2$

15. Explain why a sum of two squares ($m^2 + 25$ for example) is not factorable.

Perfect Square Trinomial:

Factor and check. If the problem is not a perfect square, then write "not a perfect square".

16. $x^2 - 4x + 4$ 17. $a^2 + 16a + 64$ 18. $y^2 + 12y + 144$

19. $v^4 - 14v^2 + 49$ 20. $25x^2 + 10xy + y^2$ 21. $16c^2 - 24c + 9$

Factoring Trinomials of the Form $x^2 + bx + c$:

Factor and check. If not factorable, write "prime".

22. $x^2 + 8x + 7$ 23. $z^2 - 6z + 5$ 24. $p^2 - 5p + 6$

25. $x^2 - 11x + 24$ 26. $u^2 + 12u + 28$ 27. $x^2 - 22x + 72$

Factoring Trinomials of the Form $x^2 + bx - c$:

Factor and check. If not factorable, write "prime".

28. $z^2 + 3z - 4$

29. $z^2 - 3z - 4$

30. $x^2 - x - 20$

31. $x^2 + 2x - 8$

32. $a^2 - 2a - 24$

33. $y^2 + 12y - 36$

34. $k^2 + k - 72$

35. $x^2 - 2xy - 63y^2$

36. $x^2 - 4kx - 12k^2$

Factoring Trinomials of the Form ax^2+bx+c:

Factor and check. If not factorable, write "prime".

37. $7x+2x^2-9$

38. $3x^2+7x+2$

39. $14x^2-17x+5$

40. $5u^2-6u-2$

41. $21c^2+4c-12$

42. $32n^2-4n-15$

43. $6h^2+17h+10$

44. $9m^2-25mn-6n^2$

45. $11x-6x^2+10$