

Practice 5-4

Factoring Quadratic Expressions

Factor each expression completely.

1. $x^2 + 4x + 4$

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

$(x+2)^2$

2. $x^2 - 7x + 10$

$(x-5)(x-2)$

3. $x^2 + 7x - 8$

$(x+8)(x-1)$

4. $x^2 - 6x$

$x(x-6)$

5. $x^2 - 9x + 8$

$(x-8)(x-1)$

6. $x^2 + 2x - 35$

$(x+7)(x-5)$

7. $x^2 + 6x + 5$

$(x+5)(x+1)$

8. $x^2 - 9$

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

9. $x^2 - 13x - 48$

$(x+3)(x-16)$

$1 \cdot -48$
 $2 \cdot -24$
 $3 \cdot -16$

10. $x^2 - 4$

$(x-2)(x+2)$

11. $4x^2 + x$

$x(4x+1)$

12. $x^2 - 29x + 100$

$(x-25)(x-4)$

$-25 \cdot 4$

13. $x^2 - x - 6$

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

14. $9x^2 - 1$

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

15. $9x^2 - 4$

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

16. $x^2 + 34x - 72$

$(x-2)(x+36)$

17. $x^2 - 25$

$(x-5)(x+5)$

18. $x^2 - 21x - 22$

$(x-22)(x+1)$

19. $x^2 + 8x + 12$

$(x+6)(x+2)$

20. $7x^2 + 49$

$7(x^2+7)$

21. $x^2 - 1$

$(x-1)(x+1)$

22. $4x^2 - 1$

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

23. $x^2 - 14x + 24$

$(x-12)(x-2)$

24. $x^2 + 13x + 40$

$(x+5)(x+8)$

$1 \cdot 40$
 $2 \cdot 20$
 $4 \cdot 10$
 $5 \cdot 8$

What are some challenges you are finding with factoring?