

Factoring Practice Sheet

Instructions: Factor each expression completely using function notation.

1. $f(x) = x^2 + 5x + 6$
2. $f(x) = x^2 - 9$
3. $f(x) = x^3 + 2x^2 + x + 2$
4. $f(x) = x^2 + 7x + 12$
5. $f(x) = x^2 - 16$
6. $f(x) = 2x^3 + 6x^2 + x + 3$
7. $f(x) = x^2 - 5x + 6$
8. $f(x) = x^2 + 8x + 15$
9. $f(x) = x^2 - 25$
10. $f(x) = x^3 - 3x^2 + 2x - 6$
11. $f(x) = x^2 - 9x + 20$
12. $f(x) = x^2 - 4$
13. $f(x) = 3x^3 + 9x^2 + 2x + 6$
14. $f(x) = x^2 - 2x - 8$
15. $f(x) = x^2 + 3x - 10$
16. $f(x) = x^2 - 36$
17. $f(x) = 4x^3 - 8x^2 + 3x - 6$
18. $f(x) = x^2 + 6x + 8$
19. $f(x) = x^2 - 49$
20. $f(x) = 5x^3 + 15x^2 + 2x + 6$

21. $f(x) = x^2 - 7x + 12$
22. $f(x) = 3x^2 + 3x - 36$
23. $f(x) = x^2 - 64$
24. $f(x) = 3x^3 - 15x^2 + 2x - 10$
25. $f(x) = 2x^2 + 8x - 42$
26. $f(x) = x^2 - 81$
27. $f(x) = 2x^3 - 8x^2 + 5x - 20$
28. $f(x) = 5x^2 - 40x + 75$
29. $f(x) = x^2 + 2x - 24$
30. $f(x) = x^2 - 100$
31. $f(x) = 4x^3 - 16x^2 + 3x - 12$
32. $f(x) = 2x^2 - 22x + 60$
33. $f(x) = x^2 + 5x - 24$
34. $f(x) = x^2 - 121$
35. $f(x) = 2x^2 + 24x + 40$
36. $f(x) = 3x^2 - 39x + 126$
37. $f(x) = x^2 + 7x - 30$
38. $f(x) = x^2 - 144$
39. $f(x) = 3x^2 - 36x + 105$
40. $f(x) = 4x^2 - 60x + 224$

ANSWER KEY

1. $f(x) = (x + 2)(x + 3)$
2. $f(x) = (x - 3)(x + 3)$
3. $f(x) = (x + 2)(x^2 + 1)$
4. $f(x) = (x + 3)(x + 4)$
5. $f(x) = (x - 4)(x + 4)$
6. $f(x) = (2x^2 + 1)(x + 3)$
7. $f(x) = (x - 2)(x - 3)$
8. $f(x) = (x + 3)(x + 5)$
9. $f(x) = (x - 5)(x + 5)$
10. $f(x) = (x - 3)(x^2 + 2)$
11. $f(x) = (x - 4)(x - 5)$
12. $f(x) = (x - 2)(x + 2)$
13. $f(x) = (3x^2 + 2)(x + 3)$
14. $f(x) = (x - 4)(x + 2)$
15. $f(x) = (x + 5)(x - 2)$
16. $f(x) = (x - 6)(x + 6)$
17. $f(x) = (4x^2 + 3)(x - 2)$
18. $f(x) = (x + 2)(x + 4)$
19. $f(x) = (x - 7)(x + 7)$
20. $f(x) = (5x^2 + 2)(x + 3)$

21. $f(x) = (x - 3)(x - 4)$
22. $f(x) = 3(x + 4)(x - 3)$
23. $f(x) = (x - 8)(x + 8)$
24. $f(x) = (3x^2 + 2)(x - 5)$
25. $f(x) = 2(x + 7)(x - 3)$
26. $f(x) = (x - 9)(x + 9)$
27. $f(x) = (2x^2 + 5)(x - 4)$
28. $f(x) = 5(x - 3)(x - 5)$
29. $f(x) = (x + 6)(x - 4)$
30. $f(x) = (x - 10)(x + 10)$
31. $f(x) = (4x^2 + 3)(x - 4)$
32. $f(x) = 2(x - 5)(x - 6)$
33. $f(x) = (x + 8)(x - 3)$
34. $f(x) = (x - 11)(x + 11)$
35. $f(x) = 2(x + 2)(x + 10)$
36. $f(x) = 3(x - 6)(x - 7)$
37. $f(x) = (x + 10)(x - 3)$
38. $f(x) = (x - 12)(x + 12)$
39. $f(x) = 3(x - 5)(x - 7)$
40. $f(x) = 4(x - 7)(x - 8)$