Complete these additional Factoring Problems for **Algebra I students taking Honors Algebra 2**.

Honors Algebra I - Mixed Factoring Practice

Factor completely. If the polynomial is not factorable, write "prime". Do all work in your notebook.

1. $b^2-14b+45$
2. $40-15a+a^2$
3. $x^2+12xy+35y^2$
4. $a^2-23a+120$
5. $180-21a+a^2$
6. $(x+2)^2+5(x+2)+4$
7. x^8-y^{16}
8. b^4-26b^2+25
9. x^5-13x^3+36x
10. x^4-16x^2+27
11. $y^2-10y-24$
12. $x^2-9xy-22y^2$
13. $1-ab-56a^2b^2$
14. $k^2-11kd-60d^2$
15. $(x+1)^2-2(x+1)-8$
16. $2x^4-34x^2+32$
17. $3a^4-63a^2-300$
18. $6x^2+3x-9$
19. $24ax^2+10ax-6a$
20. $6a^2+17a+5$
21. $42-5x-2x^2$
22. $3c^2+13cd-30d^2$
23. $21y^3-98y^2-35y$
24. $20x^2+3x-9$
25. $6m^3n^2+4m^2n^2-10mn^2$
26. $16-46m+15m^2$
27. $15m^6-80m^3+25$
28. $12x^2+17x-7$
29. $30x^2+14x-4$
30. $rtx^2-2rtx-8rt$
31. $3r^9-27r$
32. $12w^2+23w+5$
33. $5a^2+6a+1$
34. $7n^2-8n+1$
35. $9r^2-25rs-6s^2$
36. x^4-y^4
37. $30x^2-5xy-5y^2$
38. $12a^2-10ab-8b^2$
39. $2x^4-162$
40. $-8x+8x^2-2$
41. $36d^2-5d-24$
42. $12x^2-4x-21$
43. $5y^2-16y+3$
44. $24a^2-31a-15$
45. $40a^2-7a-21$
46. y^6-49
47. $8a^3-8a$
48. $(3w-6)^2-16y^2$
49. $21a^2-41a+10$
50. $x^2-xy-x+y$
51. $-m^2+mn+2m-2n$
52. $6x^2y-11x^2y^2-10x^2y^3$
53. $2x^5-7x^3-4x$
54. a^5+18a^3+81a
55. $(x+y)^2-(x-y)^2$
56. $8p^3q-18pq^3$
57. $33f^2-f-14$
58. $35y^2+2y-24$
59. $\frac{49}{3}a^2-\frac{81}{3}b^2$
60. $4x^4-17x^2+4$
61. $15x^3-30x^2+3x$
62. $8x^4y+4x^3y-12x^2y$
63. $36y^2-9x^2-24x-16$
64. $15ab-9bc+20ac-12c^2$
65. $2m^{15}-32m$
66. $45j^4k^2+45j^3k^2-20j^2k^2$
67. $49w^2-24x-16x^2-9$
68. $6rt-5s+2t-15rs$

Mixed Factoring Practice Answers:

1. $(b-9)(b-5)$	2. prime
3. $(x+7y)(x+5y)$	4. $(a-8)(a-15)$
5. prime	6. $(x+6)(x+3)$
7. $(x^4+y^8)(x^2+y^4)(x+y^2)(x-y^2)$	8. $(b+5)(b-5)(b+1)(b-1)$
9. $x(x+3)(x-3)(x+2)(x-2)$	10. prime
11. $(y-12)(y+2)$	12. $(x-11y)(x+2y)$
13. $-(8ab-1)(7ab+1)$	14. $(k-15d)(k+4d)$
15. $(x+3)(x-3)$	16. $2(x+4)(x-4)(x+1)(x-1)$
17. $3(a+5)(a-5)(a^2+4)$	18. $3(2x+3)(x-1)$
19. $2x(4x+3)(2x-1)$	20. $(2a+5)(3a+1)$
21. $-(2x-7)(x+6)$	22. $(3c-5d)(c+6d)$
23. $7y(y-5)(3y+1)$	24. $(4x+3)(5x-3)$
25. $2n^2m(3m+5)(m-1)$	26. $(5m-2)(3m-8)$
27. $5(3m^3-1)(m^3-5)$	28. $(4x+7)(3x-1)$
29. $2(3x+2)(5x-1)$	30. $rt(x+2)(x-4)$
31. $3r(r^4+3)(r^4-3)$	32. $(4w+1)(3w+5)$
33. $(5a+1)(a+1)$	34. $(7n-1)(n-1)$
35. $(9r+2s)(r-3s)$	36. $(x^2+y^2)(x+y)(x-y)$
37. $5(3x+y)(2x-y)$	38. $2(2a+b)(3a-4b)$
39. $2(x^2+9)(x+3)(x-3)$	40. prime
41. $(9d-8)(4d+3)$	42. $(6x+7)(2x-3)$
43. $(5y-1)(y-3)$	44. $(3a-5)(8a+3)$
45. prime	46. $(y^3+7)(y^3-7)$
47. $8a(a+1)(a-1)$	48. $(3w-6+4y)(3w-6-4y)$
49. $(7a-2)(3a-5)$	50. $(x-y)(x-1)$
51. $(m-n)(2-m)$	52. $-x^2y(5y-2)(2y+3)$
53. $x(2x^2+1)(x+2)(x-2)$	54. $a(a^2+9)^2$
55. $4xy$	56. $2pq(2p+3q)(2p-3q)$
57. $(11f+7)(3f-2)$	58. $(7y+6)(5y-4)$
59. $\frac{1}{3}(7a+9b)(7a-9b)$	60. $(2x+1)(2x-1)(x+2)(x-2)$
61. $3x(5x^2+10x+1)$	62. $4x^2y(2x+3)(x-1)$
63. $(6y+3x+4)(6y-3x-4)$	64. $(5a-3c)(3b+4c)$
65. $2m(m^7+4)(m^7-4)$	66. $5j^2k^2(3j+4)(3j-1)$
67. $(7w+4x+3)(7w-4x-3)$	68. $(3r+1)(2t-5s)$