

1. $6x^4y - 9xy^4 + 18x^3y^3$	$3xy(2x^3 - 3y^3 + 6x^2y^2)$
2. $8x^2 + 10 - 4x^2y - 5y$	$(4x^2 + 5)(2 - y)$
3. $x^3 + 8b^3 - x^3y^2 - 8y^2b^3$	$(1 - y)(1 + y)(x + 2b)(x^2 - 2xb + 4b^2)$
4. $x^2 - 5x + 6$	$(x - 2)(x - 3)$
5. $2x^3 + 4x^2 - 30x$	$2x(x + 5)(x - 3)$
6. $20a^2 - 41ab + 20b^2$	$(5a - 4b)(4a - 5b)$
7. $6x^4 - 11x^3 - 10x^2$	$x^2(3x + 2)(2x - 5)$
8. $24x^2y - 6xy - 45y$	$3y(4x + 5)(2x - 3)$
9. $x^4 - 16$	$(x^2 + 4)(x + 2)(x - 2)$
10. $3a^4 + 18a^2 + 27$	$3(a^2 + 3)^2$
11. $a^3 - 8$	$(a - 2)(a^2 + 2a + 4)$
12. $5x^3 + 30x^2y + 45xy^2$	$5x(x + 3y)^2$
13. $3a^3b - 27ab^3$	$3ab(a - 3b)(a + 3b)$
14. $x^2 - 10x + 25 - y^2$ (hint: factor 1 st 3 terms first)	$(x - 5 + y)(x - 5 - y)$
15. $36 - 25a^2$	$(6 - 5a)(6 + 5a)$
16. $x^2 + 5x + 6 = 0$	-3, -2
17. $\frac{5}{6}y^2 = \frac{1}{4}y + \frac{1}{3}$	$\frac{4}{5}, -\frac{1}{2}$
18. $9x^2 - 25 = 0$	$\frac{5}{3}, -\frac{5}{3}$
19. $5x^2 = -10x$	0, -2
20. $x^3 + 4x^2 - 9x - 36 = 0$	-4, 3, -3
21. $18a^4 + 6a^2 - 4$	$2(3a^2 + 2)(3a^2 - 1)$
22. $x^2 - 2x - 15$	$(x - 5)(x + 3)$
23. $x^2 + x - 12$	$(x + 4)(x - 3)$
24. $12x^4 + 26x^2 - 10$	$2(2x^2 + 5)(3x^2 - 1)$
25. $8t^3 + 27$	$(2t + 3)(4t^2 - 6t + 9)$
26. $81 - x^4$	$(9 + x^2)(3 + x)(3 - x)$
27. $\frac{1}{5}x^2 = \frac{1}{3}x + \frac{2}{15}$	$2, -\frac{1}{3}$
28. $x^3 + 2x^2 - 16x - 32 = 0$	4, -4, -2
29. The product of two consecutive positive odd integers is 99. Find the integers.	9, 11
30. The area of a rectangle is 24 sq. ft. Determine the length & width of the rectangle if its length is 2 ft. more the width.	6, 4
31. $10x^3y^2 - 8xy$	$2xy(5x^2y - 4)$
32. $8a^3b - 12a^2b^2 + 28a^2b$	$4a^2b(2a - 3b + 7)$
33. $x^2 - 8x + 2x - 16$	$(x + 2)(x - 8)$
34. $5x^2 - 15x + 2x - 6$	$(5x + 2)(x - 3)$
35. $a^2 - 4ab - 5ab + 20b^2$	$(a - 5b)(a - 4b)$
36. $x^2 + 12x + 32$	$(x + 8)(x + 4)$
37. $x^2 + 5x - 24$	$(x + 8)(x - 3)$
38. $25a^2 - 5ab - 6b^2$	$(5a - 3b)(5a + 2b)$
39. $4x^2 - 16x - 48$	$4(x + 2)(x - 6)$
40. $2x^3 - 3x^2 + x$	$x(2x - 1)(x - 1)$
41. $12x^2 - xy - 6y^2$	$(3x + 2y)(4x - 3y)$
42. $x^2 - 9y^2$	$(x + 3y)(x - 3y)$
43. $x^3 + 27$	$(x + 3)(x^2 - 3x + 9)$
44. $x^2 - 6x = 0$	0, 6
45. $5x^2 - 8x + 3 = 0$	$\frac{3}{5}, 1$
46. $x^2 = 64$	8, -8
47. $x^2 - 14x + 49 = 0$	7
48. $x^2 + 6 = -5x$	-2, -3
49. $x^2 - 7x + 12 = 0$	4, 3
50. The product of two positive integers is 36. Determine the two integers if the larger is one more than the twice the smaller.	9, 4