POLYNOMIAL OPERATIONS PRACTICE

Add the following polynomials (Write answers in descending order):

1. $(7j^3 - 2) + (5j^3 - j - 3)$
2. $(8a^5 - 4) + (3a^5 + a - 2)$
3. $(6m^5 + 1) + (2m^5 + 9m - 1)$
4. $(3m^5 + 1) + (9m^5 + 3m - 2)$
5. $(-5x^2 - x + 4) + (-3x^2 - 5x + 2)$
6. $(-4x + 4x^3 + 7) + (3x^3 - 9 - 3x)$
7. $(3x^2 - 2x + 1) + (-x^2 + 3x + 1)$

Subtract the following polynomials (Write answers in descending order):

8. $(-x^2 + x - 4) - (3x^2 - 8x - 2)$
9. $(8x^2 - 3x) - (5x - 5 - 8x^2)$
10. $(-x^2 - 5x - 3) - (-7x^2 - 8x - 8)$
11. $(-2x^3 + x) - (7x - 3 - 7x^3)$
12. $(3x^3 + 3x^2 + 9) - (5x^3 - 7x^2 + 6x - 9)$
13. $(5x^3 + 5x^2 + 5) - (6x^3 - 6x^2 + 8x - 5)$
14. $(5x^3 + 3x^2 + 5) - (7x^3 - 9x^2 + 8x - 5)$

Multiply the following polynomials:

15. $(8x^3y^2)(-3x^2y^3)$
16. $(-9x^3y)(-8x^2y^3)$
17. $j^2(k^5j^3)$
18. $a^4(b^4a^6)$
19. $2x^3(9x^2 + 5y)$
20. $5x^3(2x + 4y)$
21. $5m^2(3m^3 + 5m^2 - 4m + 6)$
22. $-4x^2y(x^2 + 7xy - 6y^3)$
23. $(x + 6)(x + 2)$
24. $(x - 6)(x + 9)$
25. $(4x - 3)(3x - 5)$
26. $(x - 8)(x - 7)$
27. $(6a + 1)(5a + 2)$
28. $(5x + 4y)(2x + 5y)$
29. $(2x + y)(4x - 9y)$
30. $(6r - 5)(6r + 1)$
31. $(6c + 7)(6c - 7)$
32. $(3x + 5y)^2$
33. $(x - 2)(x^2 - x + 3)$
34. $(2x - 5)(5x^2 + 4x + 7)$

Divide the following polynomials:

35. $\frac{9x-6}{3}$
36. $\frac{4x-7}{2}$
37. $\frac{x^2-3x+5}{x}$
38. $\frac{5x^2-25x+2}{-5x}$
39. $\frac{4x^{10}-5x^9-20x^4}{4x^2}$
40. $(-x^6 + x^5 + 7x^2 - 9) \div x^4$
41. $(x^2 + 2x + 6) \div x$
42. $(3x^2 - 15x + 5) \div (-3x)$
43. $(2x^{11} - 5x^7 - 10x^6) \div 2x^3$
44. $(-2x^6 + 5x^5 + 9x^2 + 2) \div x^4$
45. $\frac{f^3+64}{f+4}$
46. $\frac{4p-2+3p^2}{p-1}$
47. $\frac{3m-4+2m^2}{m+5}$
48. $\frac{j^3-64}{j-4}$
49. $\frac{-5p+4p^2+4}{p-2}$
50. $(4p + 3p^2 - 1) \div (p + 4)$
51. $(20x^2 - 13x + 2) \div (5x - 2)$
52. $(12x^2 - 6x^3 - 3 - 9x) \div (3x - 3)$
53. $(8x^2 - 2x - 3) \div (2x + 1)$
54. $(-3x^2 + 6x^3 - 4 - x) \div (2x + 1)$