24. Find the value of k for which $2x^4 + 3x^3 + 2kx^2 + 3x + 6$ is exactly divisible is x+2
25. Find the coefficient of x^2 in $(2x^2-5)(4+3x^2)$
26. Find the remainder when $f(x)= x^3 - 3x^2 + 4x - 5$ is divided by x-2 using long division. Verify the remainder by finding it by Remainder Theorem.
27. Find the coefficient if x^2 in $(2x-5)(2x^2- 3x+1)$
28. Find the quotient and remainder when $f(x)$ = when $x^3 + 3x^2 + 3x + 5$ is divided by $g(x)= x+2$
29. Find the remainder when $x^3 + x^2 + x + 1$ is divided by $x - ½$ using Remainder Theorem
30. Find the remainder when $4x^3 - 12x^2 + 14x - 3$ is divided by $2x - 1$ using Remainder Theorem
31. Divide $3x^3 - 8x^2 + 3x + 2$ by $x^2 - 3x + 2$ and verify division.
32. Without actually calculating cubes, evaluate $(14)^3 + (13)^3 - (27)^3$
33. Find the value of the polynomial $p(x)= x^3 - 3x^2 - 2x + 6$ at $x=\sqrt{2}$
34. Find the remainder when $5x^3 - 7x^2 + 3x + 13$ is divided by $x/2 + 1$
35. Find the remainder when $3x^4 + 2ax^3 - 5a^2x^2 + 5x$ is divided by x-a
36. Find the value of a for which x-1 is a factor of the polynomial $a^2x^3 - 4ax + 4a - 1$
37. What should be subtracted from polynomial $p(x) = 2x^4 + 3x^3 - 2x^2 - 9x - 2$ so that it is exactly divisible by x^2-3
38. What must be subtracted from $x^3 - 6x^2 - 15x + 80$ so that the polynomial is exactly divisible by $x^2 + x - 12$
39. Find out what must be subtracted from $4y^4 + 12y^3 + 6y^2 + 50y + 26$ so that the obtained polynomial is exactly divisible by $y^2 + 4y + 2$
40. If $x+y+4 =0$, find the value of $x^3 + y^3 - 12xy + 64$
41. Evaluate $\frac{75 \times 75 \times 75 + 25 \times 25 \times 25}{75 \times 75 - 75 \times 25 + 25 \times 25}$
42. If $a+b+c =9$, $ab+bc+ca =26$, find the value of $a^2+b^2+c^2$
43. If $a^2+b^2+c^2 =250$ and $ab+bc+ca= 3$, the value of $a+b+c$
44. Find the value of p if the polynomial $p(x)=x^4 - 2x^3 + 3x^2 - px + 3p - 7$ when divided by x+1 leaves remainder 19. Also find the remainder when p(x) is divided by x+2
45. Find the quotient and remainder when $f(x) = 4x^4 + 11x^3 + 2x^2 - 11x + 6$ is divided by $g(x)= x^2 + 2x + 2$
46. Check whether $3/\sqrt{5}$ and $-3/\sqrt{5}$ are zeroes of $p(x) = 5x^2 - 3$
47. Find the value of a for which x-a is a factor of $3x^5 - 3a^3x^2 + 5x + 20$
48. Find the value of a for which the polynomial $4x^4 - ax^2 + 2x^2 + 4x + 3$ is divisible by 1-2x
49. The polynomials $kx^3 - 3x^2 - 8$ and $3x^3 - 5x + k$ are divided by x+2. If the remainder is same in each case, find k.
50. Evaluate using suitable identities
    (i) 109 x 111 (ii) $(102)^2$ (iii) 104 x 96
51. Evaluate $(1.5)^3 - (0.9)^3 - (0.6)^3$ using suitable identity
52. Find the value of $x^3 - 8y^3 - 36xy - 216$ when $x= 2y+6$
53. Simplify $(\sqrt{x} + \sqrt{y})(\sqrt{x} - \sqrt{y})(x+y)(x^2+y^2)$
54. Find the remainder when $x^{51} + 51$ is divided by x+1
55. Give the possible expression for the dimensions of a cuboid whose volume is $2x^3 + 7x^2 - 3x - 18$
56. Simplify $(a + b + c)^2 + (a - b - c)^2$
57. If $x + 1/x = 9$, find the value of $x^3 + 1/x^3$

58. If $x + y - 1 = 0$, prove that $x^3 + y^3 + 3xy = 1$

59. If $a^2 + b^2 + c^2 = 200$, $ab + bc + ca = 60$, find the value of $a + b + c$