AL – SAUDIA VIRTUAL ACADEMY
PAKISTAN ONLINE TUITION – ONLINE TUTOR PAKISTAN
First Formula for Differentiation

If $y = x^n$ Then $\underline{dy/dx} = nx^{n-1}$

1. $f(X) = 3X^2$
2. $f(X) = X^3$
3. $f(X) = X^2 - X$
4. $f(X) = 2X^3 - 1$
5. $f(X) = \sqrt{X + 1}$
6. $f(X) = X^4$
7. $f(X) = 1/X$
8. $f(X) = 1/X^2$
9. $f(X) = AX^2 + B$
10. $f(X) = \dfrac{1}{x} + 1$
11. $f(X) = \dfrac{1}{\sqrt{x}}$
12. $f(X) = X^{1/3}$
13. $f(X) = 28X^5 - 4X^3 + 1$
14. $f(X) = 3X^4 - 2X^3 + X^2 - 4X + 2$
15. $f(X) = 4X^7$
16. $Y = -1/3\ X^4$
17. $Y = 3X^8 + 2X + 1$
18. $Y = \frac{1}{2}\ (X^4 + 7)$
19. $Y = 1/3\ (X^7 + 2X + 6)$
20. $Y = X^5 + 1/5$
21. $Y = ax^3 + bx^2 + cx + d$
22. $Y = 1/a\ (x^2 + 1/b\ x + c)$
23. $Y = -3x^{-8} + 2\ \sqrt{x}$
24. $Y = 7x^{-6} - 5\ \sqrt{x}$
25. $Y = x^{-3} + 1/x^7$
26. $Y = \sqrt{x} + 1/x$

27. $Y = 3x^2 - 5\sqrt{x}$

28. $Y = \sqrt{x^3}$

29. $Y = \sqrt{2x}$

30. $Y = x^5 - 4x^4 + 3x^2 - 2x + 5$

31. $Y = 4 = 2x - 3x^2 - 5x^3 - 8x^4 + 9x^5$

32. $Y = 1/x + 3/x^2 + 2/x^3$

33. $Y = 2x^{1/2} + 6x^{1/3} - 2x^{3/2}$

34. $Y = x^5 + 5x^4 - 10x^2 + 6$

35. $Y = 3x^{1/2} - x^{3/2} + 2x^{-1/2}$

36. $Y = \sqrt{2x} + 2\sqrt{x}$

37. $Y = 3\sqrt{3x}^2 - 1/\sqrt{5x}$

38. $f(t) = 2/\sqrt{t} + 6/3\sqrt{t}$

39. $Y = 2/^{1/2}x + 6/^{1/3}x - 2/^{3/2}x - 4/^{3/4}x$

40. $f(x) = x^6 - 6/^{3/2}x + 4/x^2 - 4/x + 5$