1- مشتق توابع زیر را پیدا کنید .

1- $(3x - 2x^2)(5 + 4x) =$

2- $\sqrt[3]{x^2}(2x - x^2) =$

3- $\left(1 + \sqrt{x^3}\right)\left(x^{-3} - 2\sqrt[3]{x}\right) =$

4- $\left(\frac{1}{x} + 1\right)(x - 1) =$

5- $2x(x^2 + 3x) =$

6- $\sin x \cos x =$

7- $x^2 \sin x =$

8- $(2x - 3)^{-2} \times (4x + 3)^{-2} =$

9- $\cos(2x + 1) =$

10- $(4x - 3)^5 =$

11- $(x^2 + 1)^3 =$

12- $-3\sin(4x^2 + 5) =$

13- $5\ln(x^4) =$

14- $\ln\sin\sqrt{1 + x^2} =$

15- $\sin^2 5x =$

16-$(3x^2 - 4x + 1)^8 =$

17 $= \sqrt{\frac{a^2 - x^2}{a^2 + x^2}} =$

18-$3e^{4x} =$

2- انتگرال توابع زیر را پیدا کنید .

1- $\int_0^3 (x^3 - 6x)dx =$

2- $\int_0^1 (4 + 3x^2)dx =$

3- $\int_0^2 (2 - x^2)dx =$

4- $\int_{-1}^5 (1 + 3x)dx =$

5-$\int_0^1 (5 - 6x^2) dx =$

6- $\int_1^2 x^3 dx =$

7-$\int_0^1 10^x dx =$

8-$\int_1^3 e^x \, dx =$

9 $- \int_3^6 \frac{dx}{x} =$

10- $\int_\pi^{2\pi} \cos\Theta \, d\Theta =$

11-$\int_{-1}^0 (2x - e^x) \, dx =$

12-$\int_{-2}^{-1} \left(4y^3 + \frac{2}{y^3}\right) dy =$

13-$\int_0^2 (6x^2 - 4x + 5) dx =$