Practice with Integrals Name_____

Evaluate the following Integrals:

1. $\int_0^4 y^9 - 2y^5 + 3y \ dy$

2. $\int_1^3 \frac{1}{t^2} - \frac{1}{t^4} \ dt$

3. $\int_1^2 \frac{t^6 - t^2}{t^4} \ dt$

4. $\int_1^2 \frac{x^2 + 1}{\sqrt{x}} \ dx$

5. $\int_0^4 u(\sqrt{u} + \sqrt[3]{u}) \ du$

6. $\int_0^2 (x^3 - 1)^2 \ dx$

7. $\int_{-1}^{1} (x-1)(3x+2)dx$

8. $\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \csc^2 x dx$

9. $\int_0^{\frac{\pi}{2}} \cos x + 2\sin x \ dx$

10. $\int_0^{\frac{1}{2}} \frac{1}{\sqrt{1-x^2}} dx$

Find the Indefinite Integral

11. $\int \sqrt[3]{x} dx$

12. $\int x(2+x^2)dx$

13. $\int b^2 + 1 + \frac{1}{b^2} db$

14. $\int (2 - \sqrt{x})^2 dx$

15. $\int \frac{\sin x}{1 - \sin^2 x} dx$

16. $\int \frac{\sin 2x}{\sin x}$