

Integration practice. Integrate!

$$1. \int \frac{\cos x}{1 + \sin^2 x} dx$$

$$2. \int_{-1}^1 \frac{e^{\arctan y}}{1 + y^2} dy$$

$$3. \int \sin^2 x \cos^3 x dx$$

$$4. \int \frac{\sqrt{9 - x^2}}{x} dx$$

$$5. \int_0^{1/2} \frac{x}{\sqrt{1 - x^2}} dx$$

$$6. \int_0^2 \frac{2t}{(t - 3)^2} dx$$

$$7. \int \frac{x - 1}{x^2 - 4x + 5} dx$$

$$8. \int e^{x+e^x} dx$$

$$9. \int \ln(1 + x^2) dx$$

$$10. \int t^3 e^{-2t} dt$$

$$11. \int_0^1 (1 + \sqrt{x})^8 dx$$

$$12. \int \frac{3x^2 - 2}{x^2 - 2x - 8} dx$$