1、若F(x)的原函数为 $\sin x$,则 $\int dF(x) = \frac{\cos 5}{x^{5}}$

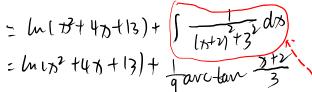
$$2. \int \frac{\sin 2x}{1 + \sin^2 x} dx = (C).$$

$$= \int F'(b) db = F(b),$$

- A. $\ln(1+\sin 2x) + C$ B. $\ln(1+\cos 2x) + C$
- C. $ln(1+sin^2 x)+C$ D. 以上答案都不对

3.
$$\int \frac{2x+5}{x^2+4x+13} dx = \int \frac{1}{x^2+4x+13} dx = \int \frac{1}{x^2+4x+$$

$$4. \int \frac{1}{(1+e^{-x})} dx$$



5、计算:
$$\int \operatorname{arccot} \sqrt{x} dx$$

6. 求
$$\int x^2 \cos x dx$$
.

7.
$$\int \sin^3 t \cdot \cos t \cdot dt$$

$$\left[\frac{1}{9} \cdot \frac{\left(\frac{5+2}{3}\right)^2+1}{\left(\frac{5+2}{3}\right)^2+1}\right] = \frac{1}{9} \cdot \operatorname{arrwin}\left(\frac{5+2}{3}\right)$$

8.
$$\int \sin^3 t \cdot \cos^2 t \cdot dt$$

9.
$$\Re \int \frac{dx}{\sqrt{(x^2+1)^3}} \cdot \Re : \Leftrightarrow x = \tan u, \quad dx = \sec^2 u du$$

$$\int \frac{dx}{\sqrt{(x^2+1)^3}} = \int \frac{\sec^2 u \, du}{\sec^3 u} = \int \frac{1}{\sec u} \, du = \int \cos u \, du = \sin u + C = \frac{x}{\sqrt{x^2+1}} + C$$

解: 设x = secu, dx = secutanudu

原式 =
$$\int \frac{1}{\text{secutanu}} \text{secutanudu} = \int du = u + C = \arccos \frac{1}{x} + C$$

11.
$$\int \frac{1}{\sin^2 x \cos^2 x} dx = \int \frac{\sin^2 x + \cos^2 x}{\sin^2 x \cos^2 x} dx = \int (\sec^2 x + \csc^2 x) dx = \tan x - \cot x + c$$

11.
$$\int \frac{1}{\sin^2 x \cos^2 x} dx = \int \frac{\sin^2 x + \cos^2 x}{\sin^2 x \cos^2 x} dx = \int (\sec^2 x + \csc^2 x) dx = \tan x - \cot x + \cot x$$

12.
$$\int \frac{x^2 + x - 1}{(x^2 - 1)^2} dx$$

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           = arcial t. +2 + / t. 1+22 dt
           = are t · t2 + /(1- 1/2) dd &
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b. \ \ B2057 dp =
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             = 12 sint - 1 215 winsdes > 1/2 [ [ ] ! ] = 12 sint - 12 sint of 2 sodiests
             = 12 sint + 2 ( to with - ( cost dits )
            = 725in1 + 21 8 coss - 5ins + 6) = 75ins + 27 65x + 25ins + 6
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