

① Derivative of constant —?

→ 0

② $\int \sec x \, dx$?

→ ~~$\ln |\sec x + \tan x| + C$~~ None of those.

③ An Equation containing one dependent variable —?

→ One independent variable.

④ $\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = 0$?

→ Dependent —

⑤ $\int \operatorname{cosec} x \cot x \, dx$?

→ $-\operatorname{cosec} x + C$.

⑥ An Equation containing Dependent variable —

→ Derivatives.

⑦ $\frac{d}{dx} (\sec x)$?

→ $\tan x \cdot \sec x$.

⑧ The Equation $\frac{d^2 y}{dx^2} - \frac{3dy}{dx} - 1 = 0$?

→ Ordinary D.E.

⑨ $\frac{d}{dx} (uv)$?

→ None of these.

⑩ $\int \tan x \, dx$?

→ $-\ln |\sec x| + C$.

⑪ An Equation one dependent variable

& it's derivatives with —

→ One / more independent.

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(12) $\frac{d}{dx} (x \cdot \ln x)$?

$\rightarrow 1 + \ln x$

(13) Derivatives of $\sec x$ with respect to x is

$\rightarrow \sec x \cot x$

(14) $\frac{d}{dx} (\ln \sin x)$?

$\rightarrow \frac{1}{\sin x} \cos x$

(15) Derivatives of x^2 with respect to x is

$\rightarrow 2x$

(16) $\frac{dy}{dx} - y \cos x = 0$? x is?

\rightarrow Independent variable.

(17) An Equation containing — and its derivatives with respect to two or more independent variable —? Partial D.E.

\rightarrow One Dependent variable.

(18) $\frac{d^2 y}{dx^2} + y \sin x = 2$?

\rightarrow Ordinary D.E.

(19) $\int x^{-3} dx$?

\rightarrow None of these.

(20) $\frac{d}{dx} (a \sin x) = ?$

$\rightarrow a \sin x \cdot \cos x \cdot \ln a$

(21) Integral of x with respect to x is

$\rightarrow \frac{x^2}{2} + c$

(22) $\frac{d}{dx} (2^{2x}) = ?$
 $\rightarrow 2^{2x} \cdot 2 \ln 2$

(23) The order $\frac{d^2 y}{dx^2} - \frac{3dy}{dx} - 1 = 0$
 $\rightarrow 2$

(24) $\frac{d}{dx} (\ln x \sin x)$
 $\rightarrow \ln x \cdot \cos x + \frac{1}{x} \sin x$

(25) $\int \frac{dx}{\sqrt{1-x^2}} = ?$
 $\rightarrow \sin^{-1} x + C$

(26) $\int 2x dx = ?$
 $\rightarrow x^2 + C$

(27) Derivative $\ln x$ ——— respect to x ?
 $\rightarrow x^{-1}$

(28) Integral of constant ——— x ?
 $\rightarrow \odot \cdot x \cdot \text{constant}$

(29) Derivative of $\tan x$ with ——— x .
 $\rightarrow \sec^2 x$

(30) $\frac{d}{dx} (2^x) = ?$
 $\Rightarrow 2^x \ln 2$

(31) $\frac{d}{dx} \left(\frac{u}{v} \right) = ?$
 $\rightarrow 0$

(32) $\frac{d}{dx} (x-2)^2$ ——— x .
 $\rightarrow 2x-4$

$$\rightarrow \frac{dy}{dx} - y \cos x = 8.$$

\rightarrow Dependent

$$\rightarrow \frac{d}{dx} (\cos x) \text{ ————— } ?$$

$$\rightarrow -\sin x.$$

$$\rightarrow \int 2x - 2 \text{ w.r.t } x \text{ ————— } ?$$

$$\rightarrow x^2 - 2x + c.$$

$$\rightarrow \frac{d}{dx} (3x - 4) \text{ ————— } x?$$

$$\rightarrow \textcircled{3} \text{ ————— }$$

$$\rightarrow \int \sec \sec x \, dx.$$

$$\rightarrow \ln(\sec x - \tan x) + c.$$

$$\rightarrow \int \sec^2 x \, dx?$$

$$\rightarrow \tan x + c.$$

$$\rightarrow \frac{d}{dx} (x^2 + 3x - 1) \text{ ————— } ?$$

$$\rightarrow 2x + 3.$$

$$\rightarrow \int x^2 \, dx$$

$$\rightarrow \frac{x^3}{3} + c.$$

\rightarrow

Checked By: _____

Excellent ☐

Good ☐

Need Improvement ☐