

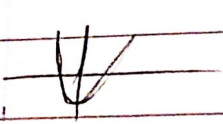
Shri ijer

1 $f'(0) = 0$ $f''(0) = r$ $f(x) = \cos^r(x) + ax^r + b$

2 $f'(x) = -r \times \sin x \times \cos^{r-1} x + rax$

3 $f''(x) = -r(\cos x \times \cos^{r-1} x) +$

5 $y = x^r - 1$ $y' = rx$ $(rx)(-rx) = -1$ $n = \frac{-1}{r}$



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$y = \frac{-r}{r}$

9 $f(x) = \frac{a}{rx-1}$

$m < 1$

$y = ym - a$

10 $\frac{a}{rx-1} = ym - a \rightarrow a = (ym - a)(rx - 1)$

12 $f'(x) = \frac{-rx}{(rx-1)^2} = y \rightarrow a = \frac{r}{r^2 - rx + 1}$

13 $f'(0) = \frac{-r}{1} = \frac{-1}{r}$

$n = 1$
 $a = -r$

15 $f(x) = \frac{x+a}{ax+1}$ $y = kx+b \rightarrow y' = r$

$b = -1 \leftarrow r + b = 1$ $y = 1 \leftarrow n = 1$

17 $f'(x) = \frac{1-ar}{(1+ax)^2}$

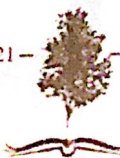
$\frac{1-a}{1+a} = r$ $a = \frac{-1}{r}$

$y = \frac{n - \frac{1}{r}}{1 - \frac{n}{r}}$

19 $f(x) = \sin x + \frac{1}{r} \cos x$

$g(x) = \frac{r}{r} \sin x$

20 $g(x) = f(x) \rightarrow n = \frac{\pi}{r}$



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$$g(x) = \frac{\mu}{r} \cos x$$

$$f(x) = \cos x - \frac{1}{r} \sin x$$

$$f\left(\frac{\pi}{r}\right) = \frac{\sqrt{r}}{r} \quad f\left(\frac{\pi}{r}\right) = \frac{\sqrt{r}}{r} \quad \text{ss}$$

$$f(x) = rx^m - rx^r - 1 \quad x+1$$

$m-1 \rightarrow m+r$

$$f'(x) = 9x^r - 9x - r = 9(x^r - x - r) = 9(x-r)(x+1)$$

$$A \begin{vmatrix} -1 \\ r \end{vmatrix} \quad B \begin{vmatrix} r \\ -19 \end{vmatrix}$$

$$m_{AB} = \frac{-rV}{r} = -9$$

$$9x^r - 9x - r = -9 \rightarrow 9x^r - 9x - r = 0 \quad \Delta > 0 \quad \text{two}$$

$$y = kx^r + (k+1)x^r$$

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$$y = ax^r + ax^r + bx - 1 \quad -1 + a - b - 1 = -r \quad a - b = -r$$

$$a = \frac{-a}{r} \quad -1 = \frac{-a}{r} \quad a = r \quad b = a \quad \frac{a}{b} = \frac{r}{a}$$

$$f'(x) = rx^r + ram + b \quad f'(0) = 0 \rightarrow b = 0 \quad f(0) = r \quad C = r$$

$$rx^r + ram = x(rx + ra) \rightarrow \begin{cases} x = 0 \\ m = \frac{-ra}{r} \end{cases}$$

$$f(x) = x^r + ax^r + r \quad \left(\frac{-ra}{r}\right)^r + a \left(\frac{-ra}{r}\right)^r + r = 0 \quad a = -r$$

$$f(x) = x^3 - 9x^2 + 0$$

$$f'(x) = 3x^2 - 18x$$

$$f''(x) = 6x - 18$$

$$18x - 18 = 0 \quad x = 1 \rightarrow C, D$$

$$3x^2 - 18x = 0 \quad x(x - 6) = 0$$

$$\begin{array}{l} \rightarrow x = 0 \\ \rightarrow x = 6 \\ \rightarrow x = -\sqrt{6} \end{array}$$