

دسته $g \circ f(x)$?

$$D_{g \circ f} = \{x \in D_f \mid f(x) \in D_g\}$$

$x > 1$

$$\sqrt{x-1} = 2$$

$$\frac{x-1}{2} = 2$$

$$x-1=4$$

$$x=5$$

در اینجا

$D_g \rightarrow$

$$g(x) = \sqrt{(x-1)^2}$$

در اینجا

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$$x=2$$

$$D_{g \circ f} = \{x \mid x > 1\}$$

$$f \circ g(x) = g \circ f(x)$$

$$f(g(x)) = f(x^2 - 2x + 1) = (x^2 - 2x + 1)^2 - 2(x^2 - 2x + 1) + 1$$

$$= x^4 - 4x^3 + 6x^2 - 4x + 1 - 2x^2 + 4x - 2 + 1$$

$$= x^4 - 4x^3 + 4x^2 - 4x + 1$$

$$= x^4 - 4x^3 + 4x^2 - 4x + 1$$

$$x^2 - 1 = 0 \Rightarrow x = \pm 1$$

$$x + y = 0$$

$$x + y = 1$$

$$g \circ f(x) = 2x^2 + 11 \rightarrow g(t) = \frac{a}{f} t^2 + 11$$

$$g(0) = 11$$

$$g(x-1) = \frac{a}{f} (x-1)^2 + 11 = \frac{a}{f} (x^2 - 2x + 1) + 11$$

$$f(g(x)) = 3g - f = 3(x^2 - 2x + 1) - f$$

$$g = x^2 - 2x + 1$$

$$g(x) = (x-1)^2$$

$$g(f(x)) = (x-1)^2 = x^2 - 2x + 1$$

$$f \circ g(x) = -x + 2$$

$$-f = f \circ g(x) - 1$$

$$f(g(x)) = 3f(x) - 1$$

$$3f(x) - f(g(x)) = -3x + 1$$

$$g(a) = -1 \Rightarrow f(a) = \frac{1}{3}$$

$$f(x) = 2x + 1$$

$$2 \cdot \frac{1}{3} = \frac{2}{3} + 1$$

$$\frac{2}{3} = \frac{1}{3}$$

$$f(g(x)) = 3g(x) + f$$

$$f(-1) = 0 \quad f(x) = f - 2x = 0$$

$$\rightarrow 0 = 3g(x) + f$$

$$g(a) = -1$$

$$g$$

$$g(1) = -1$$

$$\alpha > 0$$

$$\lim_{t \rightarrow 0} \frac{f(x) - f(x-t)}{t} = f'(x)$$

$$\alpha > 1$$

$$f(x) = \frac{1}{\alpha} x^\alpha$$

$$f'(x) = x^{\alpha-1}$$

$$f(1, r) \leftarrow \text{Einführung}$$

$$x^r \leq rx$$

$$x^r - rx \leq 0$$

$$\frac{0}{+} - \frac{r}{+} +$$

$$x(x-r) \leq 0 \quad D = (0, r]$$

$$f\left(\frac{x-r}{2}\right) = f\left(x - \frac{r}{2}\right) = \frac{1}{2} \left[\left(x - \frac{r}{2}\right)^r = x^r + \frac{r}{2} x^{r-1} - \dots \right]$$

$$\lim_{t \rightarrow 0} \frac{x^r + \frac{r}{2} x^{r-1} - F + x - \frac{r}{2}}{t}$$

$$f(t) = t^r + t$$

$$f(x) = x^r + x$$

$$f(g(x)) = \frac{1}{r} (1-x)^{r-1}$$

$$A \cap B = (1, r) \rightarrow b^r$$

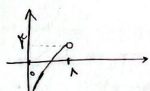
$$x(1-x) > 0$$

$$\frac{1}{-1} + \frac{1}{1} = 0$$

$$D = (0, 1)$$

$$B \rightarrow x$$

$$(-\infty, r)$$



$$f(f(x)) = 1 - x f(x)$$

$$f(x) = 1 - x^r$$

$$h(g(x)) = \frac{(x-1)(x^r - rx + r - 1)}{x^r - rx + r - 1} + 1$$

$$x^r - rx + r - 1 = x^r - rx^r + rx - r = x^r - rx^r + rx - r$$

$$g\left(x - \frac{r}{2}\right) = x(ax - r)$$

$$g(r) = 1$$

$$r = x - \frac{r}{2}$$

$$x^r - r = rx$$

$$x^r - r - rx = 0$$

$$(x-r)(x-1) = 0 \rightarrow x = 1$$

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

$$\frac{a}{a} = 1$$

$$g(1) = 1$$

$$g(x) = x^r + x$$

$$g(0) = 0$$