

Beberapa Rumus Fungsi Invers

Diketahui $f(x) = ax + b$ maka

$$f(x) = ax + b$$

$$y = ax + b$$

$$y - b = ax$$

$$\frac{y - b}{a} = x$$

$$\frac{y - b}{a} = f^{-1}(y)$$

$$\frac{x - b}{a} = f^{-1}(x)$$

Jika $f(x) = ax + b$ maka $f^{-1}(x) = \frac{x - b}{a}$

Diketahui $f(x) = \frac{ax + b}{cx + d}$; $cx + d \neq 0$ maka

$$f(x) = \frac{ax + b}{cx + d}$$

$$y = \frac{ax + b}{cx + d}$$

$$y(cx + d) = ax + b$$

$$cyx + dy = ax + b$$

$$cyx - ax = -dy + b$$

$$(cy - a)x = -dy + b$$

$$x = \frac{-dy + b}{cy - a}$$

$$f^{-1}(y) = \frac{-dy + b}{cy - a}$$

$$f^{-1}(x) = \frac{-dx + b}{cx - a}; cx - a \neq 0$$

Jika $f(x) = \frac{ax + b}{cx + d}$ maka $f^{-1}(x) = \frac{-dx + b}{cx - a}$

Diketahui $f(x) = a^x$; $a \neq 1$
maka

$$f(x) = a^x$$

$$y = a^x$$

$${}^a \log y = x$$

$${}^a \log y = f^{-1}(y)$$

$${}^a \log x = f^{-1}(x)$$

Jika $f(x) = a^x$; $a \neq 1$ maka

$$f^{-1}(x) = {}^a \log x; x > 0$$

Diketahui $f(x) = \sqrt[n]{ax + b}$, maka

$$f(x) = \sqrt[n]{ax + b}$$

$$y = \sqrt[n]{ax + b}$$

$$y^n = ax + b$$

$$ax = y^n - b$$

$$x = \frac{y^n - b}{a}$$

$$f^{-1}(y) = \frac{y^n - b}{a}$$

$$f^{-1}(x) = \frac{x^n - b}{a}; a \neq 0$$

Jika $f(x) = \sqrt[n]{ax + b}$; $ax + b \geq 0$

maka $f^{-1}(x) = \frac{x^n - b}{a}; a \neq 0$

Diketahui $f(x) = (x+p)^2 + q$, maka

$$f(x) = (x+p)^2 + q$$

$$y = (x+p)^2 + q$$

$$y - q = (x+p)^2$$

$$x + p = \pm \sqrt{y - q}$$

$$x = -p \pm \sqrt{y - q}$$

$$f^{-1}(y) = -p \pm \sqrt{y - q}$$

$$f^{-1}(x) = -p \pm \sqrt{x - q}; x - q \geq 0$$

jika $f(x) = (x+p)^2 + q$
maka $f^{-1}(x) = -p \pm \sqrt{x - q}; x - q \geq 0$

Diketahui $f(x) = {}^a \log x; a \neq 1, x > 0$,
maka

$$f(x) = {}^a \log x$$

$$y = {}^a \log x$$

$$x = a^y$$

$$f^{-1}(y) = a^y$$

$$f^{-1}(x) = a^x$$

Jika $f(x) = {}^a \log x$ maka $f^{-1}(x) = a^x$

Diketahui $f(x) = r(x-p)^2 + q$, maka

$$f(x) = r(x-p)^2 + q$$

$$y = r(x-p)^2 + q$$

$$y - q = r(x-p)^2$$

$$x - p = \pm \sqrt{\frac{y - q}{r}}$$

$$x = p \pm \sqrt{\frac{y - q}{r}}$$

$$f^{-1}(y) = p \pm \sqrt{\frac{y - q}{r}}$$

$$f^{-1}(x) = p \pm \sqrt{\frac{x - q}{r}}; \frac{y - q}{r} \geq 0, r \neq 0$$

jika $f(x) = r(x-p)^2 + q$
maka $f^{-1}(x) = p \pm \sqrt{\frac{x - q}{r}}; \frac{y - q}{r} \geq 0, r \neq 0$

$\sqrt{m \forall \tau i k l o n e} \cdot \omega \theta r \partial p r E \delta \rho \leq \emptyset \eta i$
 $\notin \tau \cup \pi g 2$