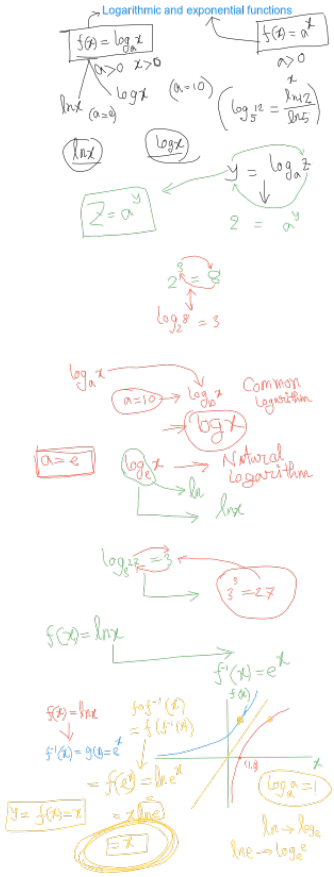
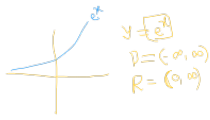


Find the value of x from

$$\log_2(4x) - 3\log_2(x^2) = \log_2 2$$
$$\Rightarrow \log_2(4x) - \log_2(x^2)^3 = \log_2 2$$
$$\Rightarrow \log_2\left(\frac{4x}{x^6}\right) = \log_2 2$$
$$\Rightarrow \frac{4x}{x^6} = 2 \Rightarrow 4x - 2x^6 = 0$$
$$\Rightarrow 2x - 4x = 0$$
$$\Rightarrow 2x(x^5 - 2) = 0$$
$$\Rightarrow 2x = 0 \text{ or, } x^5 - 2 = 0$$
$$\Rightarrow x = 0 \text{ or, } x^5 = 2$$
$$\Rightarrow x = \sqrt[5]{2}$$

Solve for x,

$$e^x - 2xe^x = 0$$
$$\Rightarrow e^x(1 - 2x) = 0$$
$$\Rightarrow e^x \neq 0 \Rightarrow 1 - 2x = 0$$
$$\Rightarrow x = \frac{1}{2}$$



Limits and Continuity of a function

Limit of a function:

$|x - 1| \leq \varepsilon$

1×10^{-10}

10^{-2}

$\lim_{x \to 1}$

"X is very close to 1"

$x = 0.9999$

$x = 0.99999999$

$x = 0.999\ldots9$ (n-9)

$\lim_{x \to 2} x^2 = 4$

$x \to 2$ x tends to 2 $y \to x^2$

x	1.7	1.8	1.9	1.99	2	2.01	2.05	2.1	2.3
y	2.89	3.24	3.61	3.96	4	4.04	4.20	4.41	4.84

$\lim_{x \to 2}$ $\lim_{x \to 2^+}$ $y \to 4$ $x \to 2$ $x \neq 2$

$\lim_{x \to a} f(x) = l$

$f(x) \to l$ if $x \to a$

$\lim_{x \to a} f(x) = f(a)$

$\lim_{x \to a} f(x) = P$

When "x" is sufficiently close to "a" then how is the behavior of the function y = f(x)?

$x \to a$ $\lim_{x \to a} f(x) = ?$

$\lim_{x \to a^+} f(x)$ (Right Limit)

$\lim_{x \to a} f(x)$

$\lim_{x \to a^-} f(x)$ (Left Limit)