

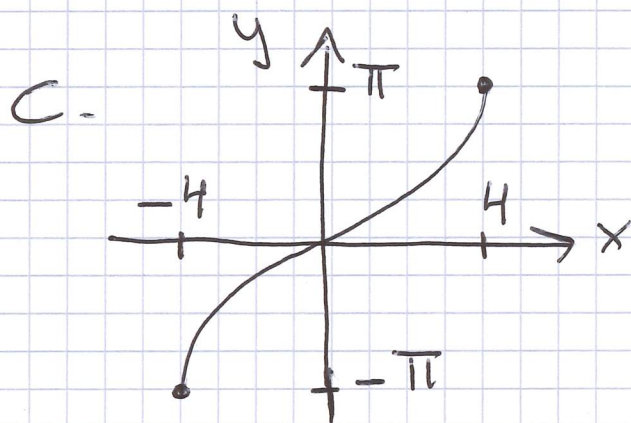
Svar . Dugga 2 . 2021 .

1 a.  $x = e^{-2/3}$

b.  $x = \frac{\pi}{6} + n\frac{2\pi}{3}$  ,  $n \in \mathbb{Z}$  .

2 a.  $f(x) = 2 \sin(x + \frac{\pi}{3})$

b.  $x = \begin{cases} -\pi/6 + n2\pi \\ \pi/2 + n2\pi \end{cases}$  ,  $n \in \mathbb{Z}$  .



$D_f = [-4, 4]$

$V_f = [-\pi, \pi]$

3 a.  $1/2$       b.  $1/3$

c.  $a = 4$

4 a.  $\lim_{h \rightarrow 0} \frac{\frac{1}{x+h} - \frac{1}{x}}{h} = \dots = -\frac{1}{x^2}$

b.  $y' = (6x+1) \sin 2x + (6x^2+2x) \cos 2x$

c.  $y' = \frac{1}{x^3} \left(1 + \frac{1}{x^2}\right)^{-3/2}$