

# Differentialkvotient for $f(x) = \frac{1}{x}$

**Differentialkvotient for  $f(x) = \frac{1}{x}$ .**

*Trin 1: Indsæt funktionen i differenskvotienten*

$$\frac{\Delta y}{\Delta x} = \frac{f(x_0 + h) - f(x_0)}{h}$$

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$$\frac{\frac{1}{x_0+h} - \frac{1}{x_0}}{h} = \frac{\frac{x_0}{x_0 \cdot (x_0+h)} - \frac{x_0+h}{x_0 \cdot (x_0+h)}}{h}$$

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$$\frac{\frac{1}{x_0+h} - \frac{1}{x_0}}{h} = \frac{\frac{x_0 - (x_0+h)}{x_0 \cdot (x_0+h)}}{h}$$

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$f$	$f'$	
$k$	$0$	(1)
$k \cdot x$	$k$	(2)
		(3)
		(4)
		(5)
		(6)
		(7)
		(8)
		(9)

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		(3)
$\frac{1}{x}$	$-\frac{1}{x^2}$	(4)
		(5)
		(6)
		(7)
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		(9)