

## Calculus I

### § Derivative of reciprocal of linear polynomial

Todor Milev

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$$\left(\frac{f}{g}\right)' = \frac{f'g - fg'}{g^2}$$

## Example

Compute the derivative. Use the quotient rule.

$$\begin{aligned} \frac{d}{dx} \left( \frac{1}{2x-1} \right) &= \frac{(1)'(2x-1) - 1 \cdot (2x-1)'}{(2x-1)^2} && \left| \text{Product rule} \right. \\ &= \frac{0 \cdot (2x-1) - 2}{(2x-1)^2} \\ &= \frac{-2}{(2x-1)^2} \end{aligned}$$