Calculus I
Derivative of reciprocal of linear polynomial

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

Example

Compute the derivative. Use the quotient rule.

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