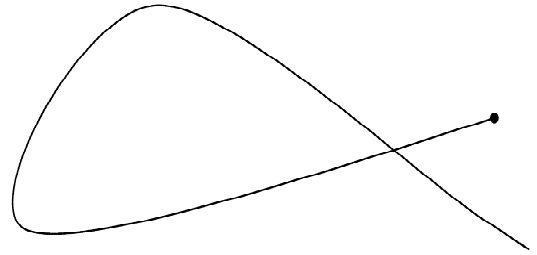


Quotient Rule

p. 193-198 (3.2)

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$$\frac{d}{dx} \left[\frac{u}{v} \right] = \frac{vu' - uv'}{v^2}$$



$$\frac{d}{dx} \left[\frac{Hi}{Ho} \right] = \frac{Ho(dHi) - Hi(dHo)}{Ho^2}$$

1. If $v(t) = \frac{t^2}{3t^2 - 2t + 1}$, find $v'(t)$.

**2. What is the instantaneous rate of change at $x = 2$ of the function

$$f \text{ given by } f(x) = \frac{x^2 - 2}{x - 1}?$$

3. Find $\frac{ds}{dt}$ for $s(t) = \frac{6t^2}{5} + \frac{2}{\sqrt[3]{t^2}}$.

4. Suppose that $f(5) = 1, f'(5) = 6, g(5) = -3, g'(5) = 2$. Find $(g/f)'(5)$.

5. Considering $f(x)$ and $g(x)$ are the functions shown in the graph. Let $v(x) = \frac{g(x)}{f(x)}$?

a) Find $v'(4)$. b) Find $v'(5)$.

