$$\frac{d}{dx}\left[b^x\right] =$$

$$\frac{d}{dx}\left[b^{AT}\right] =$$

$$\frac{d}{dx}\left[b^x\right] = b^x \cdot \ln b$$

$$\frac{d}{dx}\left[b^{AT}\right] = b^{AT} \cdot \ln b \cdot \frac{d}{dx}\left[AT\right]$$

$$\frac{d}{dx}\left[\ln x\right] =$$

$$\frac{d}{dx}\left[\ln(AT)\right] =$$

$$\frac{d}{dx}\left[\ln x\right] = \frac{1}{x}$$

$$\frac{d}{dx}\left[\ln(AT)\right] = \frac{1}{AT} \cdot \frac{d}{dx}\left[AT\right]$$

$$\frac{d}{dx}\left[\log_b x\right] =$$

$$\frac{d}{dx}\left[\log_b(AT)\right] =$$

$$\frac{d}{dx}\left[\log_b x\right] = \frac{1}{x \cdot \ln b}$$

$$\frac{d}{dx}\left[\log_b(AT)\right] = \frac{1}{AT \cdot \ln b} \cdot \frac{d}{dx}\left[AT\right]$$

$f(x) = 5^{2x^3}$

Find $f'(x) =$

$f(x) = 5^{2x^3}$

$f'(x) = 5^{2x^3} \cdot \ln(5) \cdot \frac{d}{dx}[2x^3]$

$f'(x) = 5^{2x^3} \cdot \ln 5 \cdot 6x^2$

$f'(x) = 6x^2 \cdot 5^{2x^3} \cdot \ln 5$

Remember $\frac{d}{dx}[b^{AT}] = b^{AT} \cdot \ln b \cdot \frac{d}{dx}[AT]$

$f(x) = \ln(2x+5)$

Find $f'(x) =$

$f(x) = \ln(2x+5)$

$f'(x) = \frac{1}{2x+5} \cdot \frac{d}{dx}[2x+5]$

$f'(x) = \frac{1}{2x+5}(2) = \frac{2}{2x+5}$

Remember $\frac{d}{dx}[\ln(AT)] = \frac{1}{AT} \cdot \frac{d}{dx}[AT]$

$f(x) = \log_5(\sin x)$

Find $f'(x) =$

$f(x) = \log_5(\sin x)$

$f'(x) = \frac{1}{\sin x \cdot \ln 5} \cdot \frac{d}{dx}[\sin x]$

$f'(x) = \frac{1}{\sin x \cdot \ln 5}(\cos x) = \frac{\cos x}{\sin x \cdot \ln 5} = \frac{\cot x}{\ln 5}$

Remember $\frac{d}{dx}[\log_b(AT)] = \frac{1}{AT \cdot \ln b} \cdot \frac{d}{dx}[AT]$