



Derivative Rules - General Exponential

Simple Exponent (with Rule) to Derivative

1 Find the derivative $f'(x)$ using the general exponential rule and the chain rule. $\frac{d}{dx} a^u = a^u \ln a \cdot \frac{du}{dx}$ $f(x) = 5 \cdot 7^x$		2 Find the derivative $f'(x)$ using the general exponential rule and the chain rule. $\frac{d}{dx} a^u = a^u \ln a \cdot \frac{du}{dx}$ $f(x) = 4 \cdot 2^x$	
A $f'(x) = 5 \cdot 7^x \ln 7$	B $f'(x) = 5(x) \cdot 7^{x-1}$	A $f'(x) = 4 \cdot 2^x$	B $f'(x) = 4 \cdot 2^x \ln 2$
C $f'(x) = 5 \cdot 7^x$	D $f'(x) = 5 \cdot 7^x \ln 7 \cdot (x)$	C $f'(x) = 4(x) \cdot 2^{x-1}$	D $f'(x) = 4 \cdot 2^x \ln 2 \cdot (x)$
3 Find the derivative $f'(x)$ using the general exponential rule and the chain rule. $\frac{d}{dx} a^u = a^u \ln a \cdot \frac{du}{dx}$ $f(x) = 5 \cdot 6^x$		4 Find the derivative $f'(x)$ using the general exponential rule and the chain rule. $\frac{d}{dx} a^u = a^u \ln a \cdot \frac{du}{dx}$ $f(x) = 2 \cdot 8^x$	
A $f'(x) = 5 \cdot 6^x \ln 6$	B $f'(x) = 5 \cdot 6^x \ln 6 \cdot (x)$	A $f'(x) = 2 \cdot 8^x \ln 8$	B $f'(x) = 2 \cdot 8^x$
C $f'(x) = 5 \cdot 6^x$	D $f'(x) = 5(x) \cdot 6^{x-1}$	C $f'(x) = 2 \cdot 8^x \ln 8 \cdot (x)$	D $f'(x) = 2(x) \cdot 8^{x-1}$
5 Find the derivative $f'(x)$ using the general exponential rule and the chain rule. $\frac{d}{dx} a^u = a^u \ln a \cdot \frac{du}{dx}$ $f(x) = 3 \cdot 5^x$		6 Find the derivative $f'(x)$ using the general exponential rule and the chain rule. $\frac{d}{dx} a^u = a^u \ln a \cdot \frac{du}{dx}$ $f(x) = 2 \cdot 9^x$	
A $f'(x) = 3 \cdot 5^x$	B $f'(x) = 3(x) \cdot 5^{x-1}$	A $f'(x) = 2 \cdot 9^x \ln 9 \cdot (x)$	B $f'(x) = 2 \cdot 9^x$
C $f'(x) = 3 \cdot 5^x \ln 5$	D $f'(x) = 3 \cdot 5^x \ln 5 \cdot (x)$	C $f'(x) = 2 \cdot 9^x \ln 9$	D $f'(x) = 2(x) \cdot 9^{x-1}$
7 Find the derivative $f'(x)$ using the general exponential rule and the chain rule. $\frac{d}{dx} a^u = a^u \ln a \cdot \frac{du}{dx}$ $f(x) = 4^x$		8 Find the derivative $f'(x)$ using the general exponential rule and the chain rule. $\frac{d}{dx} a^u = a^u \ln a \cdot \frac{du}{dx}$ $f(x) = 6^x$	
A $f'(x) = 4^x$	B $f'(x) = 4^x \ln 4$	A $f'(x) = 6^x$	B $f'(x) = 6^x \ln 6$
C $f'(x) = 4^x \ln 4 \cdot (x)$	D $f'(x) = (x) \cdot 4^{x-1}$	C $f'(x) = (x) \cdot 6^{x-1}$	D $f'(x) = 6^x \ln 6 \cdot (x)$