Name ____________________

Matarus

Derivative Rules - Multi Quotient General Exponential Trigonometric to Derivative

1 Find the derivative f'(x) using the quotient, general exponential, and trigonometric rules. $$f(x)=\frac{3\cdot 6^x}{\sin(x)}$$

A $f'(x)=\frac{(3\cdot 6^x\ln 6)(\sin(x))-(3\cdot 6^x)(\cos(x))}{\sin(x)}$	B $f'(x)=\frac{(3\cdot 6^x\ln 6)(\sin(x))-(3\cdot 6^x)(\cos(x))}{(\sin(x))^2}$
C $f'(x)=\frac{(3\cdot 6^x)(\cos(x))-(3\cdot 6^x\ln 6)(\sin(x))}{(\sin(x))^2}$	D $f'(x)=\frac{(3\cdot 6^x\ln 6)(\sin(x))+(3\cdot 6^x)(\cos(x))}{(\sin(x))^2}$

2 Find the derivative f'(x) using the quotient, general exponential, and trigonometric rules. $$f(x)=\frac{4\cdot 8^x}{4\cos(x)}$$

A $f'(x)=\frac{(4\cdot 8^x\ln 8)(4\cos(x))-(4\cdot 8^x)(-4\sin(x))}{4\cos(x)}$	B $f'(x)=\frac{(4\cdot 8^x\ln 8)(4\cos(x))+(4\cdot 8^x)(-4\sin(x))}{(4\cos(x))^2}$
C $f'(x)=\frac{(4\cdot 8^x\ln 8)(4\cos(x))-(4\cdot 8^x)(-4\sin(x))}{(4\cos(x))^2}$	D $f'(x)=\frac{(4\cdot 8^x)(-4\sin(x))-(4\cdot 8^x\ln 8)(4\cos(x))}{(4\cos(x))^2}$

3 Find the derivative f'(x) using the quotient, general exponential, and trigonometric rules. $$f(x)=\frac{9^x}{3\cos(x)}$$

A $f'(x)=\frac{(9^x\ln 9)(3\cos(x))+(9^x)(-3\sin(x))}{(3\cos(x))^2}$	B $f'(x)=\frac{(9^x\ln 9)(3\cos(x))-(9^x)(-3\sin(x))}{(3\cos(x))^2}$
C $f'(x)=\frac{(9^x)(-3\sin(x))-(9^x\ln 9)(3\cos(x))}{(3\cos(x))^2}$	D $f'(x)=\frac{(9^x\ln 9)(3\cos(x))-(9^x)(-3\sin(x))}{3\cos(x)}$

4 Find the derivative f'(x) using the quotient, general exponential, and trigonometric rules. $$f(x)=\frac{2\cdot 5^x}{2\cos(x)}$$

A $f'(x)=\frac{(2\cdot 5^x\ln 5)(2\cos(x))-(2\cdot 5^x)(-2\sin(x))}{(2\cos(x))^2}$	B $f'(x)=\frac{(2\cdot 5^x)(-2\sin(x))-(2\cdot 5^x\ln 5)(2\cos(x))}{(2\cos(x))^2}$
C $f'(x)=\frac{(2\cdot 5^x\ln 5)(2\cos(x))+(2\cdot 5^x)(-2\sin(x))}{(2\cos(x))^2}$	D $f'(x)=\frac{(2\cdot 5^x\ln 5)(2\cos(x))-(2\cdot 5^x)(-2\sin(x))}{2\cos(x)}$

5 Find the derivative f'(x) using the quotient, general exponential, and trigonometric rules. $$f(x)=\frac{5\cdot 2^x}{4\cos(x)}$$

A $f'(x)=\frac{(5\cdot 2^x\ln 2)(4\cos(x))+(5\cdot 2^x)(-4\sin(x))}{(4\cos(x))^2}$	B $f'(x)=\frac{(5\cdot 2^x\ln 2)(4\cos(x))-(5\cdot 2^x)(-4\sin(x))}{4\cos(x)}$
C $f'(x)=\frac{(5\cdot 2^x)(-4\sin(x))-(5\cdot 2^x\ln 2)(4\cos(x))}{(4\cos(x))^2}$	D $f'(x)=\frac{(5\cdot 2^x\ln 2)(4\cos(x))-(5\cdot 2^x)(-4\sin(x))}{(4\cos(x))^2}$

6 Find the derivative f'(x) using the quotient, general exponential, and trigonometric rules. $$f(x)=\frac{5\cdot 4^x}{2\cos(x)}$$

A $f'(x)=\frac{(5\cdot 4^x\ln 4)(2\cos(x))-(5\cdot 4^x)(-2\sin(x))}{2\cos(x)}$	B $f'(x)=\frac{(5\cdot 4^x)(-2\sin(x))-(5\cdot 4^x\ln 4)(2\cos(x))}{(2\cos(x))^2}$
C $f'(x)=\frac{(5\cdot 4^x\ln 4)(2\cos(x))-(5\cdot 4^x)(-2\sin(x))}{(2\cos(x))^2}$	D $f'(x)=\frac{(5\cdot 4^x\ln 4)(2\cos(x))+(5\cdot 4^x)(-2\sin(x))}{(2\cos(x))^2}$

7 Find the derivative f'(x) using the quotient, general exponential, and trigonometric rules. $$f(x)=\frac{2\cdot 6^x}{2\sin(x)}$$

A $f'(x)=\frac{(2\cdot 6^x\ln 6)(2\sin(x))+(2\cdot 6^x)(2\cos(x))}{(2\sin(x))^2}$	B $f'(x)=\frac{(2\cdot 6^x\ln 6)(2\sin(x))-(2\cdot 6^x)(2\cos(x))}{(2\sin(x))^2}$
C $f'(x)=\frac{(2\cdot 6^x)(2\cos(x))-(2\cdot 6^x\ln 6)(2\sin(x))}{(2\sin(x))^2}$	D $f'(x)=\frac{(2\cdot 6^x\ln 6)(2\sin(x))-(2\cdot 6^x)(2\cos(x))}{2\sin(x)}$

8 Find the derivative f'(x) using the quotient, general exponential, and trigonometric rules. $$f(x)=\frac{2\cdot 6^x}{3\cos(x)}$$

A $f'(x)=\frac{(2\cdot 6^x)(-3\sin(x))-(2\cdot 6^x\ln 6)(3\cos(x))}{(3\cos(x))^2}$	B $f'(x)=\frac{(2\cdot 6^x\ln 6)(3\cos(x))+(2\cdot 6^x)(-3\sin(x))}{(3\cos(x))^2}$
C $f'(x)=\frac{(2\cdot 6^x\ln 6)(3\cos(x))-(2\cdot 6^x)(-3\sin(x))}{(3\cos(x))^2}$	D $f'(x)=\frac{(2\cdot 6^x\ln 6)(3\cos(x))-(2\cdot 6^x)(-3\sin(x))}{3\cos(x)}$