MATH 201 Your name: _____

Learning target DF3, version 2

Demonstrate and explain how to find the derivative of the following functions. Be sure to write down which derivative rules (constant multiple, sum/difference, etc.) you are using in your work.

1. $h(y) = -4\ln(y) + 3\sin(y)$

2. $g(t) = \sqrt[4]{t^3} + \dfrac{7}{t^4}$

3. $f(x) = -x^5 - 4x^4 + 5x - 4$

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Learning target DF4, version 2

Demonstrate and explain how to find the derivative of the following functions. Be sure to write down which derivative rules (product, quotient, sum and difference, etc.) you are using.

1. $h(w) = -\dfrac{\cos(w)}{6w^2+5w+4}$

2. $g(w) = \dfrac{3w^2+5w-1}{w^8}$

3. $f(w) = -\left(4w^2+6w+1\right)\ln(w)$

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Learning target DF5, version 2

Demonstrate and explain how to find the derivative of the following functions. Be sure to write down which derivative rules (product, quotient, sum and difference, etc.) you are using.

1. $h(x) = -9\cos\left(-5x^2+3x+4\right)$

2. $f(y) = -9\sin\left(y^{\frac{7}{2}}\right)$

3. $g(t) = -9\left(\sin(t)\right)^{\frac{7}{2}}$

4. $k(w) = (3w+e^w-1)^4$

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Learning target DF6, version 2

Demonstrate and explain how to find the derivative of the following functions. Be sure to write down which derivative rules (constant multiple, sum and difference, etc.) you are using.

1. $f(w) = \left(\dfrac{5w^6+1}{5w^6+2}\right)^6$

2. $g(x) = \left(5x^5 - 2x^3\right)^6 \sqrt{x}$

3. $h(y) = \sqrt{\sin\left(-2y^4+4\right)}$

MATH 201 Your name: _____

Learning target DF7, version 2

1. Use implicit differentiation to find $\frac{dy}{dx}$, aka y', for the equation $5x^5 - 2\sin(y) = -8y^3 - 7$.

2. Use implicit differentiation to find $\frac{dy}{dx}$, aka y', for the equation $0 = -y\cos(x) - 2e^x$.