Implicit Differentiation Circuit Name: Block: Seat:

Directions: Begin in cell #1. Take the derivative. Search for your answer. Continue in this manner until you complete the circuit. Additional paper may be necessary! No technology is needed!

Answer: $\dfrac{10x + 3x^2y^2}{-2yx^3 - 9y^2}$

#___1___: $-2y^2 + 3 = x^3$

Answer: $\dfrac{2x^2}{-2y^2 - 1}$

#_____: $-x^2y^2 - 3y^3 + 2 = 5x^3$

Answer: $-\dfrac{3x^2}{4y}$

#_____: $3y^3 + 2 = 2x$

Answer: $\dfrac{-3x^2 - 6xy - 5y}{3x^2 + 5x}$

#_____: $-2xy^2 - 3x^2y^3 + 3 = 4x^3$

Answer: $\dfrac{5x + 3xy^2}{-3yx^2 - 3y^2}$

#_____: $4x^2 + 4xy = -5x^3y + 4$

Answer: $\dfrac{5x + 4xy^3}{-6y^2x^2 - y}$

#_____: $4x = -5y^2 - x^2y + 4$

Answer: $\dfrac{2}{9y^2}$

#_____: $-2y^3 - 3y + 4 = 2x^3$

Answer: $\dfrac{12x^2 + 2y^2 + 6y^3x}{-4xy - 9x^2y^2}$

#_____: $-3x^2y^2 - 2y^3 + 5 = 5x^2$

Answer: $\dfrac{15x^2 + 2xy^2}{-2yx^2 - 9y^2}$

#_____: $x^3 + 3x^2y + 5xy = 5$

Answer: $\dfrac{10x + 5y + 3y^2}{-5x - 6xy}$

#_____: $-4x^2y^3 + 2 = 5x^2 + y^2$

Answer: $\dfrac{-15x^2y - 8x - 4y}{4x + 5x^3}$

#_____: $-5xy - 3xy^2 + 5 = 5x^2$