Extra Credit

In class, there was an example where the following partial derivatives were given:

$$\frac{\partial w}{\partial x} = 2x + \frac{y}{x^2} \qquad \qquad \frac{\partial w}{\partial y} = 2y - \frac{1}{x} \qquad \qquad \frac{\partial w}{\partial z} = 0$$

The formula for w was never given, though it appears that w depends on x, y or z in some way. Try to calculate a formula for w so that it has the given partial derivatives.

To get the extra credit, you have to show how you figured out the formula for w. Simply presenting the final formula for w is not enough.