$$z = x^3 + xy^2, \quad x = uv^2 + w^3, \quad y = u + ve^w \quad \Rightarrow$$

$$\frac{\partial z}{\partial u} = \frac{\partial z}{\partial x}\frac{\partial x}{\partial u} + \frac{\partial z}{\partial y}\frac{\partial y}{\partial u} = (3x^2 + y^2)(v^2) + (2xy)(1),$$

$$\frac{\partial z}{\partial v} = \frac{\partial z}{\partial x}\frac{\partial x}{\partial v} + \frac{\partial z}{\partial y}\frac{\partial y}{\partial v} = (3x^2 + y^2)(2uv) + (2xy)(e^w),$$

$$\frac{\partial z}{\partial w} = \frac{\partial z}{\partial x}\frac{\partial x}{\partial w} + \frac{\partial z}{\partial y}\frac{\partial y}{\partial w} = (3x^2 + y^2)(3w^2) + (2xy)(ve^w).$$

When $u = 2$, $v = 1$, and $w = 0$, we have $x = 2$, $y = 3$, so

$$\frac{\partial z}{\partial u} = (21)(1) + (12)(1) = 33, \quad \frac{\partial z}{\partial v} = (21)(4) + (12)(1) = 96,$$

$$\frac{\partial z}{\partial w} = (21)(0) + (12)(1) = 12.$$