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$$\begin{cases} z = x^2 y \\ x = \frac{t}{5} \\ y = 3t - 2s \end{cases} \qquad \frac{\partial z}{\partial t} - ? \qquad \frac{\partial z}{\partial s} - ?$$

$$\frac{\partial z}{\partial t} = \frac{\partial z}{\partial x} \cdot \frac{\partial x}{\partial t} + \frac{\partial z}{\partial y} \cdot \frac{\partial y}{\partial t} =$$

$$= 2xy \cdot \frac{1}{5} + 3x^2 = \frac{2xy}{5} + 3x^2 = \frac{2\frac{t}{5}(3t - 2s)}{5} +$$

$$+ 3\left(\frac{t}{5}\right)^2 = \frac{2t(3t - 2s) + 3t^2}{5^2} = \frac{6t^2 - 4ts + 3t^2}{5^2} =$$

$$= \frac{9t^2 - 4ts}{5^2} = \frac{t(9t - 4s)}{5^2}$$

$$\frac{\partial z}{\partial s} = \frac{\partial z}{\partial x} \cdot \frac{\partial x}{\partial s} + \frac{\partial z}{\partial y} \cdot \frac{\partial y}{\partial s} = x^2 \cdot (-2) = -\frac{2xyt}{5^2}$$

$$= -2\left(\frac{xyt}{5^2} + x^2\right) = \frac{t^2}{5}(3t - 2s) + t^2 =$$

$$= \frac{3t^3 - \frac{2st^2}{5}}{5^2} =$$

$$= \frac{t^2(3t - 2s)}{5^3}$$

Ответ: $\frac{\partial z}{\partial t} = \frac{t(9t - 4s)}{5^2}$

$\frac{\partial z}{\partial s} = \frac{t^2(3t - 2s)}{5^3}$