Suggested problems 10

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1. For each function below find all of its first and second partial derivatives

   (a) $f(x, y) = ye^x - x^2y^{-2} + \tan(y)$;

   (b) $f(x, y, z) = x + 2y^2 + 3z^3$.

2. Integrate each function (a) with respect to x, and (b) with respect to y (find all antiderivatives).

   (a) $f(x, y) = x^5y^{10}$;

   (b) $f(x, y) = 2x\sin(x^2) - 2y$;