Math 304 Section 1 Quiz 14 8/3/16

Name:_____

Let P_1 be the vector space of polynomials of degree 1 or less with basis $Z_1 = (1, x)$. Let P_2 be the vector space of polynomials of degree 2 or less with basis $Z_2 = (1, x, x^2)$. Let $T : P_1 \to P_2$ be the linear transformation such that for any polynomial $p(x) \in P_1$,

$$T(p(x)) = \int_0^x p(t)dt$$

Find the matrix of T with respect to the bases Z_1 and Z_2.

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