

**Quiz 1 — 09/08/16**

Answer all questions in a clear and concise manner. Answers that are without explanations or are poorly presented may not receive full credit.

1. Determine the partial fraction decomposition of the following fraction  $\frac{x^2 + 6x - 6}{(x - 2)(x^2 + 1)}$ .  
(Absolutely no integration is involved in this question.)

2. Find the following antiderivative: **Show your work!**

$$\int \sin^2 x \, dx.$$