MA 126 — Fall 2016 — Prof. Clontz — Quiz

Name: _____

9. Which of the following describes the expansion of

$$\frac{f(x)}{(t+1)^2(t^2+9)}$$

using partial fractions? (Assume $f(x)$ is a polynomial of degree less than 4.)

A. $\frac{At+B}{t+1}+\frac{C}{t^2+1}+\frac{D}{t^2+9}$.

B. $\frac{A}{t}+\frac{Bt+C}{(t+1)^2}+\frac{D}{t+3}+\frac{E}{t^2+9}$

C. $\frac{A}{t+1}+\frac{B}{(t+1)^2}+\frac{Ct+D}{t^2+9}$

D. None of these.

10. Find $\int \frac{-x^2+6x-3}{(x+3)(x^2+1)}\,dx$.

A. $-3\ln|x+3|+\ln|x^2+1|+C$

B. $\frac{3}{x^2+9}+2\ln(x^2+1)+C$

C. $2\ln(x+3)-\tan^{\leftarrow}(x^2+1)+C$

D. None of these.