NAME:

Worksheet Week VIII

Write the series representation of the following functions and indicate the values of $|z|$ (annular domain) for which this representation is valid:

(a) $z\cos(z^2)$:

(b) $\cos(1/z^2)$:

(c) $z\cos(1/z^2)$:

(d) Find a representation of the function

$$f(z) = \frac{1}{1+z}$$

in negative powers of z that is valid when $1 < |z| < \infty$.

(e) Give two Laurent series expansions for the funcion

$$f(z) = \frac{1}{z^2(1-z)}.$$