1.

The domain is all values that z is allowed to be.
Since I can't divide by zero (division by zero isn't allowed,
I need to find all values of z that would cause division by zero.
The domain will then be all other z-values.
 When is this denominator equal to zero?
$z^2 - 1 = 0$
$z = \pm 1$ then the domain of k is $\{z \mid z \neq 1 \text{ or } -1\}$