**1.**

The domain is all values that k is allowed to be.
Since I can't divide by zero (division by zero isn't allowed,
I need to find all values of k that would cause division by zero.
The domain will then be all other k-values.
When is this denominator equal to zero?
$4k^4+9=0$
impossible , then the domain of x is $(-\infty,\infty)$ i.e. $k\in\mathbb{R}$