2.

The domain is all values that u is allowed to be.
Since I can't divide by zero (division by zero isn't allowed,
I need to find all values of u that would cause division by zero.
The domain will then be all other u-values.
When is this denominator equal to zero?

$5 u^4 + 1 = 0$

impossible , then the domain of e is $(-\infty, \infty)$ i.e. $u \in \mathbb{R}$