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.

 $5 z^4 + 16 = 0$

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

The domain will then be all other z-values. When is this denominator equal to zero?