

3.

The domain is all values that  $r$  is allowed to be.

Since I can't divide by zero (division by zero isn't allowed,  
I need to find all values of  $r$  that would cause division by zero.  
The domain will then be all other  $r$ -values.

When is this denominator equal to zero?

$$5r^4 + 4 = 0$$

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