= 0 , and d =
1 , yields :
<formula>
Similarly , to find (? 2) 3 + 4i , compute the polar form of ? 2 @,@
<formula>
and use the formula above to compute
<formula>

The value of a complex power depends on the branch used . For example , if the polar form i = 1e5?i / 2 is used to compute ii , the power is found to be e ? 5? / 2 ; the principal value of ii , computed above , is e ? ? / 2 . The set of all possible values for ii is given by :
<formula>

So there is an infinity of values which are possible candidates for the value of ii , one for each integer k . All of them have a zero imaginary part so one can say ii has an infinity of valid real values .

= = = Failure of power and logarithm identities = = =

Some identities for powers and logarithms for positive real numbers will fail for complex numbers , no matter how complex powers and complex logarithms are defined as single @-@ valued functions . For example :