This is incomputable. Assume for the sake of contradiction that it is computable, so that there exists a Turing machine that computes . We can use to decide the halting problem. The halting problem asks whether a Turing machine halts on input . When given such an and input , we construct a new Turing machine that for four random inputs excluding , we make output . For input , we make it output if outputs either or . We now compute using . If and only if outputs , then halts on . This decides the halting problem, which we know to be incomputable. Thus, is incomputable.