SOLUTION 9.4 # 54

Did you guess it? well, compute a - it's ∞!! and for ∞ there are totally different rules than for numbers ... for instance, what the problem uses is:

$$2 \cdot \infty = \infty - 1$$

which is true, since both sides are ∞. On the other hand, you cannot substract ∞ out of ∞, which is what produces the absurdity:

$$2 \cdot \infty = \infty - 1$$

substract now ∞ both sides

$$2 \cdot \infty - \infty = \infty - 1 - \infty$$

and of course neither side makes sense anymore, since $\infty - \infty$ is a prohibited operation.