

## 10 tips for hacking the amateur radio licensing exams – By Lee Sly – N5SLY

Now when I say 'hacking', I don't mean cheating, but I am referring to strategies for passing the test while also learning the necessary material.

1. The exams are not that difficult. Having the mindset that you can't pass them will become a self-fulfilling prophecy.
2. It will take dedicated study time to pass the General and especially the Extra exam. The 35 General exam questions are derived from a pool of 456 questions and the 50 Extra exam questions come from an incredibly large 700 question pool. You can't pass without putting in the necessary study time.
3. Study intensely for a few weeks and then take the test. Get it over with quickly. If you drag it out, you'll forget things or get burned out.
4. Upgrade quickly. If you've recently passed your technician exam, upgrade to general quickly, and then study for and upgrade to Extra quickly. There's much overlap in test material. If you wait, you'll have to relearn a lot of the content.
5. You will never learn all of the exam material. If your goal is to know all the content or get 100% on the test, you will be studying for a very, very long time. If you're like me, my brain just isn't that big. The license you receive is the same whether you barely pass with 75% or ace it at 100%. Your primary goal is passing the exam, your secondary goal is learning the content. After all, what good is the knowledge if you're not licensed to use it. And it's more fun learning about impedance by building your first HF antenna after you pass the test than it is by studying for the test.
6. Simplify the important formulas so you can remember them. I used the easier-to-remember VCR and PVC. VCR is Ohm's law: Voltage = Current X Resistance. PVC is the power law equation: Power = Voltage X Current. Of course, you must know how to change sides of the equation (e.g., Current = Voltage/Resistance, etc.). These strategies can help you remember much of the test content.
7. Don't try to memorize all the math formulas. I passed all 3 tests without having any previous amateur radio or electronics experience by memorizing I think 5 formulas (see below). In fact, you can just skip all the math questions entirely and do just fine. Statistically, you will have 3 math questions on the General exam and only 3 or 4 on the Extra exam. You can maximize your results by focusing on memorizing other content and answers, not complex formulas that you're unlikely to see on the exam.
8. Take LOTS of practice exams. In fact, you can pass the tests and learn a lot by never studying material, but only by taking enough practice exams. I recommend [hamstudy.org](http://hamstudy.org).
9. Study the correct answers and ignore the incorrect answers/distractors. For the Extra exam, it's very difficult to remember 700 correct answers, but it's impossible to also remember all 2100 incorrect answers.
10. Look for patterns in questions and answers. See examples below. Learning these types of patterns and strategies can make acing the tests much easier.