

**Math Ninjas: Preparing for Competition**

**Readiness Challenge**

This is a level one introductory course. It is intended for students interested in competition math. Competition math tends to focus on deep thinking, creative approaches to solving math problems more so than memory-based, quick solutions. Did you know that more than 350,000 students across the country participate in the American Mathematics Competition (AMC)? Many of the nation’s more selective colleges and universities use the AMC 12 as part of their admissions process. Why not get a head start and flex your math ninja muscles now.

* Complete the Readiness Challenge.
* Discuss your answers and feelings with your teacher. Did you enjoy the questions? Did you feel challenged? Do you want to be in a five-hour/day learning laboratory on this topic?
* **Your teacher will include an assessment of your readiness based on this Challenge and classroom observations in the teacher recommendation.**
* Please do NOT send your answers to the Readiness Challenge to Virginia STEAM Academy. Discuss them with your teacher.
1. You travel to Charlotte, NC from Richmond, VA in your car to watch VA Tech play in the Belk Bowl on December 29. Gas costs $2.34 a gallon, how much will you spend?  Find the missing information and solve the problem.

Drafted by Teacher Sweeney

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3. Sally and Fred don’t like telling the truth all the time. Sally lies on Monday, Tuesdays and Wednesdays, but she is honest on all other days. Fred lies on Thursday, Fridays and Saturdays, but he tells the truth on all other days. On which day will both of them be able to say, “Tomorrow, I will lie?”

Drafted by Student Ambassadors S. Bikmal and A. Kotnana for Virginia STEAM Academy (2015)

1. A sign at the fish market says, “50% off, today only: half- pound packages for just $3 per package.” What is the regular price for a full pound of fish, in dollars?

(A) 6 (B) 9 (C) 10 (D) 12 (E) 15

This is an AMC 8 Practice Question 13-02; <http://www.maa.org/sites/default/files/2016_AMC8_PracticeProblems.pdf>

1. Try any of the problems on the Continental Mathematics League sample test, linked here, and discuss with your teacher: <https://www.cmleague.com/wp-content/uploads/2015/09/CML_sample_E6.pdf>
2. Looking for a city to host the Olympics? Review the linked Moody’s Mega Math Challenge problem and discuss your approach with your recommending teacher. <https://m3challenge.siam.org/practice-problems/olympic-money-pit>.