

Joint A&S 1B06/1D06 essay topics

- (1) Do CT scans, or other types of medical exams, such as mammograms or x-rays increase cancer risks? Do these sorts of test do more harm than good in the long run? [reference: http://www.slate.com/articles/double_x/doublex/2012/08/ct_scans_and_cancer_is_your_doctor_increasing_your_risk_with_all_that_medical_imaging_.html]
- (2) Discuss the place of mathematics in the undergraduate liberal arts curriculum. [reference: http://www.nytimes.com/2012/07/29/opinion/sunday/is-algebra-necessary.html?_r=1&scp=1&sq=algebra&st=Search]
- (3) Bias against women in the sciences and mathematics? [reference: http://www.nytimes.com/2012/09/25/science/bias-persists-against-women-of-science-a-study-says.html?_r=1&hp]
- (4) Mandatory vaccination for children [reference: <http://well.blogs.nytimes.com/2012/09/24/whooping-cough-a-stealthy-illness/> and http://www.slate.com/articles/double_x/doublex/2012/09/why_babies_are_dying_of_whooping_cough_.single.html]
- (5) The Golden Mean [reference: <http://opinionator.blogs.nytimes.com/2012/09/24/proportion-control/>]
- (6) Correlation does not imply causation [http://www.slate.com/articles/health_and_science/science/2012/10/correlation_does_not_imply_causation_how_the_internet_fell_in_love_with_a_stats_class_click_.single.html]
- (7) Mathematics rules the financial markets [reference: <http://www.bbc.co.uk/news/business-14631547>]
- (8) Artificial intelligence and creativity.
- (9) How is it possible that math is taught in school for 12 years, and yet still many people are not confident in multiplying single-digit numbers or in saying what 15% of 200 is?
- (10) According to some sources, mathematicians from the Kerala school (India) discovered and used calculus in the 12th—14th centuries. Why, then, do writers of calculus textbooks continue to claim that Newton and Leibniz discovered calculus?
- (11) Chinese teenagers are better in math and science subjects than their North American counterparts, because the Chinese education system has higher expectations of young people than the North-American system. Discuss.
- (12) Evidence shows that a person older than 50 rarely produces a scholarly work of supreme quality in mathematics. So, math professors should be forced to retire early, to make space for younger, more promising researchers.
- (13) Numbers and number systems
- (14) Cryptography and its role in society, commerce, and international relations
- (15) The relationship between music and mathematics
- (16) Erdős: the ultimate mathematician?