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1. 1 or 0? Cantorian conundrums in the contemporary classroom. By: ***Sriraman, Bharath***; Knott, Libby. Australian Senior Mathematics Journal, 2006, Vol. 20 Issue 2, p57-61, 5p; Abstract: The article presents research which dealt with the Cantorian conundrums in the contemporary classroom. In set theory, students will encounter the term vacuous truth. A statement was believed to be true if it is true but does not quite say anything. Hence, in several cases, the concept of vacuous truth can be observed in some pedagogical situations. Some people questions whether the a situation requiring the assessment of vacuous truth can arise in a contemporary classroom studying about Mathematics.; (*AN 22252127*)
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2. Insights Into Innovation: Implications for Gifted Education. By: ***Sriraman, Bharath***. Gifted Child Quarterly, Winter2006, Vol. 50 Issue 1, p77-79, 3p; Abstract: The article reviews the book "Insights Into Innovation: Implications for Gifted Education," edited by L.V. Shavinina.; (*AN 20082680*)
Cited References (5)
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3. Letter To The Editor. By: ***Sriraman, Bharath***. Mathematical Thinking & Learning, 2005, Vol. 7 Issue 4, p345-348, 4p; Abstract: Presents a letter to editor referencing the article "A First Person Perspective on Problem Solving in a History of Mathematics Course," by M. K. McGinn and D. N. Boote published in the 2003 issue.; DOI: 10.1207/s15327833mtl0704_4; (*AN 18386448*)
Cited References (2)
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4. Are Giftedness and Creativity Synonyms in Mathematics? By: ***Sriraman, Bharath***. Journal of Secondary Gifted Education, Fall2005, Vol. 17 Issue 1, p20-36, 17p Abstract: At the K-12 level one assumes that mathematically gifted students identified by out-of-level testing are also creative in their work. In professional mathematics, "creative" mathematicians constitute a very small subset within the field. At this level, mathematical giftedness does not necessarily imply mathematical creativity but the converse is certainly true. In the domain of mathematics, are the words creativity and giftedness synonyms? In this article, the constructs of mathematical creativity and mathematical giftedness are developed via a synthesis and analysis of the general literature on creativity and giftedness. The notions of creativity and giftedness at the K-12 and professional levels are compared and contrasted to develop principles and models that theoretically "maximize" the compatibility of these constructs. The relevance of these models is discussed with practical considerations for the classroom. The paper also significantly extends ideas presented by Usiskin (2000). [ABSTRACT FROM AUTHOR]; (*AN 21175544*)
Cited References (110)
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5. Book Review. By: ***Sriraman, Bharath***. Mathematical Thinking & Learning, 2005, Vol. 7 Issue 2, p171-180, 10p; Abstract: Reviews the book "Mathematicians as Enquirers: Learning About Learning Mathematics," by Leone Burton.; DOI: 10.1207/s15327833mtl0702_4; (*AN 16893901*)
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6. Consciousness and Science: an Advaita-Vedantic Perspective on the Theology – Science Dialogue. By: ***Sriraman, Bharath***; Benesch, Walter. Theology & Science, Mar2005, Vol. 3 Issue 1, p39-54, 16p Abstract: In modern science, the synthesis of “nature/mind” in observation, experiment, and explanation, especially in physics and biology increasingly reveal a “non-linear” totality in which subject, object, and situation have become inseparable. This raises the interesting ontological question of the true nature of reality. Western science as seen in its evolution from Socratic Greece has tried to understand the world by “objectifying” it, resulting in dualistic dilemmas. Indian “Science,” as seen in its evolution from the Vedic times (1500—500 BCE) has tried to understand the world by “subjectifying” our consciousness of reality. Within the Hindu tradition, the Advaita-Vedanta school of philosophy offers possibilities for resolving not only the Cartesian dilemma but also a solution to the nature of difference in a non-dualistic totality. We also present the Advaita-Vedanta principle of superimposition as a useful approach to modern physical and social science, which have been increasingly forced to reject the absolute reductionism and dualism of classical differences between subject and object. [ABSTRACT FROM AUTHOR]; DOI: 10.1080/14746700500039685; (*AN 16968537*)
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7. Combinatorial Mathematics: Research into Practice. By: ***Sriraman, Bharath***. Mathematics Teacher, Oct2004, Vol. 98 Issue 3, p182-191, 10p; Abstract: The article presents research insights and findings related to the mathematical department of combinatorics, which often leads to the confusion about permutations and combinations among many students. Combinatorial problems have found a prominent place throughout the history of mathematics. It reveals that combinatorial problems can help students construct meaningful representations, reason mathematically, and abstract and generalize mathematical concepts, thus fulfilling the vision of the National Council of Teachers of Mathematics.; (*AN 14575834*)
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8. Discovering Steiner Triple Systems through Problem Solving. By: ***Sriraman, Bharath***. Mathematics Teacher, May2004, Vol. 97 Issue 5, p320-326, 7p, 5 charts; Abstract: Discusses the discovery of Steiner triple systems through problem solving. Problem solving implementation; Definition of Steiner Triple Systems (STS); Observations, reflections, and conjectures.; (*AN 13251964*)
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9. The influence of Platonism on mathematics research and theological beliefs. By: ***Sriraman, Bharath***. Theology & Science, Apr2004, Vol. 2 Issue 1, p131-147, 17p Abstract: An age-old debate in the philosophy of mathematics is whether mathematics is discovered or invented. There are four popular viewpoints in this debate, namely Platonism,

formalism, intuitionism, and logicism. A natural question that arises is whether belief in one of these viewpoints affects the mathematician's research? In particular, does subscribing to a Platonist or a formalist viewpoint influence how a mathematician conducts research? Does the area of research influence a mathematician's beliefs on the nature of mathematics? How are the beliefs regarding the nature of mathematics connected to theological beliefs? In order to investigate these questions, five professional research mathematicians were interviewed. The mathematicians worked in diverse areas within analysis, algebra, and within applied mathematics, and had a combined 160 years of research experience. Although none of the mathematicians wanted to be pigeonholed into any one category of beliefs, the study revealed that four of the mathematicians leaned towards Platonism, which runs contrary to the popular notion that Platonism is an exception today. This study revealed that beliefs regarding the nature of mathematics influenced how mathematicians' conducted research and were deeply connected to their theological beliefs. The findings are presented in the form of vignettes that give an insight into the mathematical and theological belief structures of the mathematicians. [ABSTRACT FROM AUTHOR]; DOI: 10.1080/1474670042000196658; (*AN 13802972*)

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10. The Use of Fiction as a Didactic Tool to Examine Existential Problems. By: ***Sriraman, Bharath***; Adrian, Harry. Journal of Secondary Gifted Education, Spring2004, Vol. 15 Issue 3, p96-106, 11p Abstract: Recent geopolitical events have changed the naive way in which many teenagers view the world. In particular, it has called into question many of the moral and ethical foundations we take for granted as norms of a functioning society. In the wake of these events, it is important for teachers to allow students, in particular the gifted, to voice their thoughts and critically examine issues pertinent to society and life. The study of literature through the prism of critical thinking can allow the student to experience its cohesiveness to life. Literature can be practical, inspirational, appealing, stimulating, and educational if approached with this purpose in mind. In this paper, we describe how gifted high school seniors at a rural Midwestern public school discerned the nature of "truths" about society and life by critically examining a simple contemporary novel. Vignettes of student discussions that illustrate critical thinking and express "controversial" views are presented along with commentaries. We also discuss the implications of using fiction as a didactic tool to examine existential problems in the high school classroom. [ABSTRACT FROM AUTHOR]; (*AN 13136642*)

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11. Reflective abstraction, uniframes and the formulation of generalizations. By: ***Sriraman, Bharath***. Journal of Mathematical Behavior, Mar2004, Vol. 23 Issue 2, p205-222, 18p Abstract: In mathematics, generalizations are the end result of an inductive zigzag path of trial and error, that begin with the construction of examples, within which plausible patterns are detected and lead to the formulation of theorems. This paper examines whether it is possible for high school students to discover and formulate generalizations similar to ways professional mathematicians do. What are the experiences that allow students to become adept at generalization? In this paper, the mathematical experiences of a ninth grade student, which lead to the discovery and the formulation of a mathematical generalization are described, qualitatively analyzed and interpreted using the notion of uniframes. It is found that reflecting on the solutions of a class of seemingly different problem-situations over a prolonged time period facilitates the abstraction of structural similarities in the problems and results in the formulation of mathematical generalizations. [Copyright 2004 Elsevier]; DOI: 10.1016/j.jmathb.2004.03.005; (*AN 13434760*)

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12. Mathematics and Literature (the sequel). By: ***Sriraman, Bharath***. Australian Mathematics Teacher, Mar2004, Vol. 60 Issue 1, p17-23, 7p, 1 chart, 1 graph; Abstract: Discusses the use of the book "Flatland" in cultivating advanced mathematical ideas and philosophy with beginning algebra students. Development of ideas from the chapters of the book; Application of the Socratic method of question-hypothesis-elenchus acceptance or rejection to moderate the classroom discussion.; (*AN 12644474*)

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13. Mathematical Giftedness, Problem Solving, and the Ability to Formulate Generalizations: The Problem-Solving Experiences of Four Gifted Students. By: ***Sriraman, Bharath***. Journal of Secondary Gifted Education, Spring2003, Vol. 14 Issue 3, p151, 15p Abstract: Complex mathematical tasks such as problem solving are an ideal way to provide students opportunities to develop higher order mathematical processes such as representation, abstraction, and generalization. In this study, 9 freshmen in a ninth-grade accelerated algebra class were asked to solve five nonroutine combinatorial problems in their journals. The problems were assigned over the course of 3 months at increasing levels of complexity. The generality that characterized the solutions of the 5 problems was the pigeonhole (Dirichlet) principle. The 4 mathematically gifted students were successful in discovering and verbalizing the generality that characterized the solutions of the 5 problems, whereas the 5 nongifted students were unable to discover the hidden generality. This validates the hypothesis that there exists a relationship between mathematical giftedness, problem-solving ability, and the ability to generalize. This paper describes the problem-solving experiences of the mathematically gifted students and how they formulated abstractions and generalizations, with implications for acceleration and the need for differentiation in the secondary, mathematics classroom. [ABSTRACT FROM AUTHOR]; (*AN 9550241*)

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