

MATH 1330 Task Relevance

Problem	Take-home message/skill for teachers
Poison	express patterns in general (and possibly algebraic) terms; develop mathematical justifications
Utopia	attend carefully to making definitions (in this case, of variables) and understand their impact
Utopia & A Frame-Up	deal with and recognize problems/questions that have multiple solutions, or no solution
Painting the Cube	recognize and describe connections among algebra, geometry and measurement when they occur
Conceptual Models	know and use all the [7] basic models for the 4 basic operations
Word Problem Classification	recognize the different types of basic word problems and select and sequence them in preparing lessons
Clock Arithmetic	understand the properties of the 4 basic arithmetic operations, and the structure of elapsed time
Mayan Math	understand the properties of place value systems, anticipate (a) conceptual challenges facing students who are just developing an understanding of place value and (b) common computational strategies that students invent on their way to the traditional algorithms
Arithmetic in Other Bases	understand the traditional algorithms for the 4 arithmetic operations
The Bagel Problem	develop fluency in deconstructing and modifying tasks to adapt them to one's students
Representing Fractions	use a variety of (all 4 major) types of representations for fractions (discrete, or continuous by length/area/volume), and use all 3 basic definitions of fraction (part-whole, ratio, quotient) in problems
Fractions/Decimals	quickly choose examples of desired complexity level for students working on long division with remainders
Factors & Primes	begin to see how prime factorizations determine number of factors
GCF/LCM	see how prime factorizations determine GCF, LCM; quickly choose examples with given GCF, LCM
Divisibility Tests	understand common divisibility tests and be able to explain to students why they work
Odd/Even in Base Five	understand how divisibility tests are linked to place value
Stamps Problem	understand relative primeness; understand the role of conjecture
How Many Factors?	quickly choose numbers with the desired number of factors to use as examples