

MAC-CPTM Situations Project

Situation21: Exponential Rules

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29 June 2005 -- Erik Tillema

Prompt

A teacher in an Algebra II college preparatory class puts the following problem on the board $x^m \cdot x^n = x^5$. She has just gotten done with her lesson which reviewed the rules for exponents. She tells her students to take out a piece of paper and write down as many answers for m and n that the students think will make the statement true. She promises the students extra credit if they write all of them down. After allowing the students a few minutes to write out answers to the problem, one student raises her hand and says aloud so the students around her can hear, "How can I ever get extra credit? I keep thinking of new one's that work." Several other students in the vicinity seem to agree.

What ideas or focal points might the teacher use to capitalize on the students comments?