

Teaching Integer Operations Using Ring Theory
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A facility with signed numbers forms the basis for effective problem solving throughout developmental mathematics. Most developmental mathematics textbooks explain signed number operations using absolute value, a method that involves considering the problem in several cases (same sign, opposite sign), and in the case of subtraction, rewriting the problem as an addition problem. This method works, of course, but involves quite a bit of chalk to explain. It's neither a mathematically elegant way of understanding signed numbers, nor is it the method that experienced mathematics educators use themselves.