

## Math activity: Operating with odd and even numbers

As you work on these problems, make sure to use diagrams, cubes, and other visual representations (as the children did in Ingrid's Case 3) to make your arguments.

1. What happens when two odd numbers are added? Is this true for all pairs of odd numbers? How do you know? What kinds of arguments can you make to show your generalization is always true? What representations for odd and even and for addition do you call upon in each of your arguments? What definitions for odd and even numbers do your representations embody?
2. What happens if you multiply two odd numbers? Two even numbers? An odd and an even number? Is this true for all pairs of numbers? How do you know? What kinds of arguments can you make to show your generalization is always true? What representations for odd and even and for multiplication do you call upon in each of your arguments? What definitions for odds and evens are you using?
3. How do your generalizations and your arguments change if you consider addition or multiplication with three or more numbers? For example, what happens if you add three odd numbers? Four odd numbers? What representations for odd and even and for the operations do you call upon in each of your arguments? What definitions are you using?