

## MthT 491 Activities

From: Alan H. Schoenfeld and Abraham Arcavi, On the Meaning of Variable, **Algebraic Thinking: Grades K - 12**, NCTM, 1999, p. 156.

1. (Place value) A friend of mine observed that

$$39 \times 62 = 93 \times 26,$$

that is when you reversed the numbers 39 and 62, you find that the product of the reversed numbers is the same as the product of the two original numbers. Do any other pairs of two digit numbers have this property.

2. (Proportions) In England, a 15 percent “value added tax” (VAT) is paid on all purchases. Suppose you go to a discount house where all items are marked 20 percent off. Would you rather get the discount first and then pay the tax on the discounted price, or would you rather add on the value added tax and then get the 20 percent discount on the total?

From: John Baldwin

3. A bottle of wine contains 1 liter of wine. Next to it is a glass which holds .4 liter of water. One teaspoon (2 ml) of water is taken from the glass and mixed into the wine. Then a teaspoon of the mixture is stirred back into the glass.

Is there more water in the wine or more wine in the water?