

Warm-Ups [9/22/08]

1. Given $x = 1$ and $y = 1$, we have

$$x = y$$

$$x^2 = xy$$

$$x^2 - y^2 = xy - y^2$$

$$(x + y)(x - y) = y(x - y)$$

$$x + y = y$$

Substituting the given values

$$1 + 1 = 1$$

$$2 = 1$$

What is wrong with this proof?

2. My daughter is twice as old as my son and half as old as I am. In twenty-two years my son will be half my age. How old is my daughter?

3. How many zeros are there at the end of the quantity "100!" ?