

Strange Proofs

Theorem: $1 = 0$ (given that a and b are integers such that $a = b + 1$)

Proof:

$$a = b + 1$$

$$(a-b)a = (a-b)(b+1)$$

$$a^2 - ab = ab + a - b^2 - b$$

$$a^2 - ab - a = ab + a - a - b^2 - b$$

$$a(a - b - 1) = b(a - b - 1)$$

$$a = b$$

$$b + 1 = b$$

$$\text{Therefore, } 1 = 0$$

Theorem: $0 = 2$ (given that a and b are integers such that $a = b$)

Proof:

$$a = b$$

$$a - b - 2 = a - b - 2$$

$$a(a - b - 2) = b(a - b - 2)$$

$$a^2 - ab - 2a = ab - b^2 - 2b$$

$$a^2 - ab = ab - b^2 - 2b + 2a$$

$$a^2 - ab = ab + 2a - b^2 - 2b$$

$$a(a - b) = a(b + 2) - b(b + 2)$$

$$a(a - b) = (a - b)(b + 2)$$

$$a = b + 2$$

$$b = b + 2$$

$$\text{Therefore, } 0 = 2$$

Theorem: $4 = 5$

Proof:

$$-20 = -20$$

$$16 - 36 = 25 - 45$$

$$4^2 - 9 \cdot 4 = 5^2 - 9 \cdot 5$$

$$4^2 - 9 \cdot 4 + 81/4 = 5^2 - 9 \cdot 5 + 81/4$$

$$(4 - 9/2)^2 = (5 - 9/2)^2$$

$$4 - 9/2 = 5 - 9/2$$

$$4 = 5$$

Theorem: $3 = 4$

Proof:

Suppose that $a + b = c$ then

this can also be written as:

$$4a - 3a + 4b - 3b = 4c - 3c$$

After reorganizing:

$$4a + 4b - 4c = 3a + 3b - 3c$$

Take the constants out of the brackets:

$$4 * (a+b-c) = 3 * (a+b-c)$$

Removing the same term, $(a+b-c)$, gives:

$$4 = 3$$

Theorem: All numbers are equal to zero.

Proof:

Suppose that $a = b$. then

$$a = b$$

$$a^2 = ab$$

$$a^2 - b^2 = ab - b^2$$

$$(a + b)(a - b) = b(a - b)$$

$$a + b = b$$

$$a = 0$$

Furthermore if $a + b = b$, and $a = b$, then $b + b = b$, and $2b = b$, which mean that $2 = 1$.

Theorem: $n + n = 2$ for any n

Proof:

$$n(2n - 2) = n(2n - 2)$$

$$n(2n - 2) - n(2n - 2) = 0$$

$$(n - n)(2n - 2) = 0$$

$$2n(n - n) - 2(n - n) = 0$$

$$2n - 2 = 0$$

$$2n = 2$$

$$n + n = 2$$

$$\text{ex) let } n = 3$$

$$\text{then } 3 + 3 = 2$$

Theorem: $1\$ = 10 \text{ cent}$

Proof:

We know that $\$1 = 100 \text{ cents}$

Divide both sides by 100

$$\$ 1/100 = 100/100 \text{ cents}$$

$$\Rightarrow \$ 1/100 = 1 \text{ cent}$$

Take square root both side

$$\Rightarrow \sqrt{(\$1/100)} = \sqrt{1 \text{ cent}}$$

$$\Rightarrow \$ 1/10 = 1 \text{ cent}$$

Multiply both side by 10

$$\Rightarrow \$1 = 10 \text{ cent}$$

Theorem: $1\$ = 1 \text{cent.}$

Proof:

$$.1\$ = 100 \text{cents}$$

$$= (10 \text{cents})^2$$

$$= (0.1\$)^2$$

$$= 0.01\$$$

$$= 1 \text{cent}$$

