

June 9, 2015

#2 (-4)

-2 #3 $3 \times 4 = 12$ total

1 #4 $12 - 4 = 8$

$\frac{8}{12} =$

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Quiz #2

#1) ① ②

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$2^{10} = 1024$

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#2)

$$\frac{x+y}{3} = \frac{\frac{x}{3} + \frac{y}{3}}$$

Common

$$= \frac{x+y}{3}$$

How many numbers are there? $\rightarrow \infty$

Specific Example
 $x = 12$ & $y = 15$

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Signed Numbers

$2 \times 3 = +6$
 $2 \times (-3) = -6$
 $(-2) \times (-3) = +6$ why?

Using Induction to learn something.

$3 \times 3 = 9$ $\downarrow -3$
 $3 \times 2 = 6$ $\downarrow -3$
 $3 \times 1 = 3$ $\downarrow -3$
 $3 \times 0 = 0$ $\downarrow -3$
 $3 \times (-1) = -3$ $\downarrow -3$
 $3 \times (-2) = -6$ $\downarrow -3$

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$-3 \times 3 = -9$ $\downarrow +3$
 $-3 \times 2 = -6$ $\downarrow +3$
 $-3 \times 1 = -3$ $\downarrow +3$
 $-3 \times 0 = 0$ $\downarrow +3$
 $-3 \times (-1) = 3$ $\downarrow +3$
 $-3 \times (-2) = 6$ $\downarrow +3$

Neg \times neg = Positive

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Mathematical Proof of why a neg \times neg equals a positive

Proof: Let a and b be any two real numbers

Let x be defined by:
 $x = a \cdot b + (a) \cdot (b) + (a) \cdot (-b)$

① Using the Distributive Property of Algebra
 $x = a \cdot b + (a) \cdot [(b) + (-b)]$
 $= a \cdot b + (a) \cdot [0]$
 $x = a \cdot b$

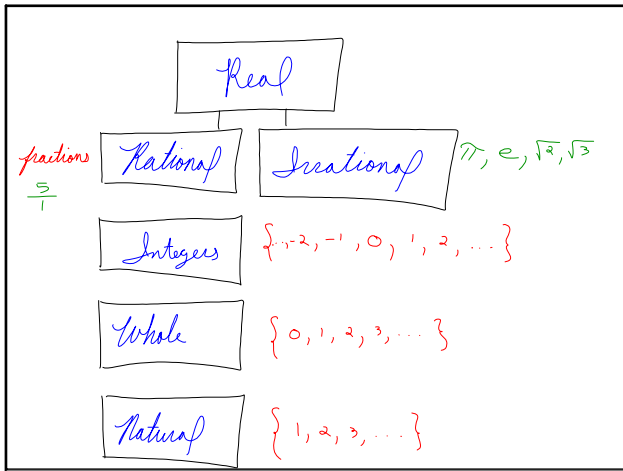
② Using Distribution again
 $x = b \cdot [a + (a)] + (-a) \cdot (b)$
 $= b \cdot [0] + (-a) \cdot (b)$
 $x = (-a) \cdot (-b)$

* So ① $x = (a) \cdot (b)$
 ② $x = (-a) \cdot (-b)$

But $x = x$

Meaning
 $a \cdot b = (-a) \cdot (-b)$
 pos \cdot pos = pos

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#2

6×6 1) + 3
 5×5 1111 = 4) + 5
 4×4 11111111 = 9) + 7?
 3×3 = 16) + 9?
 2×2 = 25) + 11?
 1×1 36

Turn In #2 tomorrow
Showing your work.

Jun 9-12:16 PM