

January 26, 2016  
 \* Quiz #1 - Tomorrow  
 A.) CO R → 1:1

Jan 26-9:50 AM

	N	Z	Q	I	R
$-\frac{3}{11}$	/	/	✓	/	✓
$\pi$	/	/	/	✓	✓
$-1.\bar{8}$	/	/	✓	/	✓
0	/	✓	✓	/	✓

Jan 26-9:55 AM

Commutative Tool  
 \* Addition  
 $a + b = b + a$   
 order changes, but result stays the same.  
 $5 + 7 = 7 + 5$   
 $5 - 7 = 5 + (-7) = -2$   
 $\neq 7 - 5 = (-7) + 5 = -2$   
 \* Multiplication  
 $a \times b = b \times a$   
 $ab = ba$   
 $5 \times 7 = 7 \times 5$   
 $(5)(7) = (7)(5)$   
 $35 = 35$   
 \* Subtraction or Division is not Commutative

Jan 26-10:15 AM

Associative Tool  
 \* Addition  
 $a + (b + c) = (a + b) + c$   
 associated associated  
 order stays the same, but association changes. However the result is unchanged.  
 $2 + (3 + 4) = (2 + 3) + 4$   
 $2 + 7 = 5 + 4$   
 $9 = 9$

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$3 + (x + 2) = (4 + x) - 3$   
 Comm  $3 + (2 + x) = (x + 4) - 3$   
 Assoc.  $(3 + 2) + x = x + (4 - 3)$   
 Combine A. D.  
 $\frac{5}{0} + \frac{x}{0} = \frac{x}{0} + \frac{1}{-4}$   
 $0 \neq -4$   
 means the equation has no solution!

Jan 26-10:30 AM

Integer Multiplication (Division)  
 \* Same "signs"  
 $(+) \times (+) = +$   
 or  
 $(-) \times (-) = +$   
 $6 \times 4 = 24$   
 $(-6)(-4) = 24$   
 $\frac{24}{4} = 6, \frac{24}{6} = 4$   
 $\frac{24}{-6} = -4, \frac{24}{-4} = -6$

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### *Traction Fact*

$$-\frac{a}{b} = \frac{-a}{b} = \frac{a}{-b}$$

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*Multiplication (Division)*

*\* Opposite "signs"*

$$(+) \times (-) = -$$

$$(-) \times (+) = -$$

$$6(-4) = -24$$

$$(-4)6 = -24$$

$$-\frac{24}{4} = -6$$

Jan 26-10:44 AM