

January 29, 2016

*Integer Multiplication*  
(Division)

\* Same "sign"

$$(+)\cdot(+)=+$$

$$(-)\cdot(-)=+$$

\* Opposite "signs"

$$(+)\cdot(-)=-$$

$$(-)\cdot(+)= -$$

Jan 29-9:05 AM

$$\frac{-12}{-3} = \frac{(-1) \cdot 12}{(-1) \cdot 3}$$

$$= \frac{\boxed{(-1) \cdot 3} \cdot \boxed{4}}{\boxed{(-1) \cdot 3}} = 4$$

$$\frac{-x}{-x} = \frac{y}{y}$$

Jan 29-9:17 AM

*Multiplicative Identity*

$$a \cdot 1 = a$$

$$1 \cdot 5 = 5$$

$$\boxed{1}x = 7$$

↑  
Positive "one"

\* *Multiplicative Inverse*

$$\frac{a}{1} \cdot \frac{1}{a} = \frac{a}{a} = 1$$

$$-16 \cdot \frac{1}{-16} = \frac{-16}{-16} = 1$$

$$-\frac{11}{3} \cdot -\frac{3}{11} = \frac{-33}{-33} = 1$$

$$\frac{2x}{2} = \frac{4}{2}$$

$$x = 2$$

$$\frac{1}{2} \cdot \frac{2}{1} x = \frac{4}{1} \cdot \frac{1}{2}$$

$$1 \cdot x = 2$$

$$x = 2$$

Jan 29-9:22 AM

*Multiplication by (-1)*

$$(-1) \cdot a = -a$$

$$\textcircled{-}(-7x^2 - 2x + 9)$$

$$7x^2 + 2x - 9$$

$$\textcircled{1}(-7x^2 - 2x + 9)$$

$$-7x^2 - 2x + 9$$

Jan 29-9:39 AM

*Exponents*

$a^{\textcircled{n}}$  ← Exponent  
↑  
Base = n factors of the base "a"

$$5^3 = 5 \cdot 5 \cdot 5$$

$$= 25 \cdot 5$$

$$= 125$$

$$2^{433} = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$$

Jan 29-9:43 AM

*Be Aware of !!!*

$$\textcircled{2} \text{ even}$$

$$\textcircled{-}4^{\textcircled{2}} = (-4) \cdot (-4) = 16$$

↑  
Base

$$-4^{\textcircled{2} \text{ even}} = (-1) \cdot 4^2 = (-1) \cdot 4 \cdot 4$$

$$= -4 \cdot 4$$

$$= -16$$

Jan 29-9:48 AM