

June 3, 2015
 * Quiz #1 - Tomorrow

- Fractions
- 1st part from Prep handout

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Area A Math

Math 0099 → Math 1111 - College Algebra

Math 1001 → Stat
 * Non-STEM, Business, or Nursing

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#3) Commutative Property
order changes, but result is the same

+ $a + b = b + a$
 $2 + 3 = 3 + 2$
 $5 = 5$

x $a \cdot b = b \cdot a$

Associative Prop.
order stays the same but association changes but the result is the same

$a + (b + c) = (a + b) + c$

$2 + (3 + 4) = (2 + 3) + 4$
 $2 + 7 = 5 + 4$
 $9 = 9$

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#3) *like things*

$\frac{2}{9} \left(\frac{9}{2} t \right)$
associated

$\left(\frac{2}{9} \cdot \frac{9}{2} \right) t$
 $\frac{18}{18} t$
 $1 \cdot t$
 t

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#9)

$(3x^2 - 8x + 5) - (x^2 - 4x + 2) + (8x^2 + 5)$

$3x^2 - 8x + 5 - x^2 + 4x - 2 + 8x^2 + 5$

$(3x^2 - x^2 + 8x^2) + (-8x + 4x) + (5 + (-2) + 5)$

$(3 + (-1) + 8)x^2 + (-8 + 4)x + 8$

$10x^2 + (-4)x + 8$

$10x^2 - 4x + 8$

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#14)

$\frac{x^4 (x^{-8})^{-9}}{(x^{-2})^{-3}}$

Negative Exponent Rule

① $A^{-n} = \frac{1}{A^n}$

$(x^2)^{-4} = \frac{1}{(x^2)^4} = \frac{1}{x^8}$

② $\frac{1}{A^{-n}} = A^n$

$\frac{1}{(x^2)^{-4}} = \frac{1}{1} = x^8$

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$$\frac{x^4 (x^{-8})^{-9}}{(x^{-2})^{-3}} = \frac{x^4 (x^{-2})^3}{(x^{-8})^9}$$

$$= \frac{x^4 x^{-6}}{x^{-72}}$$

$$= \frac{x^4 \cdot x^{72}}{x^6}$$

$$= \frac{x^{76}}{x^6} = x^{70}$$

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$$\frac{19}{4} = 4 \frac{3}{4}$$

$$\frac{19}{4} = 4 \frac{3}{4} ?$$

ck $\frac{(4 \cdot 4) + 3}{4}$

$$\frac{16 + 3}{4} = \frac{19}{4}$$

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$$\frac{x^2 + 11x + 15}{x^2 + 11x + 15}$$

	x^2	$+11x$	$+15$
$x+3$	x^2	$+3x$	$+9$
	$+8x$	$+6$	
$\frac{8x}{x} = 8$	$+8x$	$+24$	
	0	-9	

an. $x + 8 - \frac{9}{x+3}$

ck $[(x+3)(x+8)] - 9$

$$[x^2 + 8x + 3x + 24] - 9$$

$$x^2 + 11x + 24 - 9$$

$$x^2 + 11x + 15$$

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$$\frac{x^2 + 0}{x + 3} \quad \left| \quad \begin{array}{r} x=2 \\ 6x + 3 \\ \hline 3 \\ \textcircled{1} 6x \\ \textcircled{2} 2x + 3 \\ \hline \frac{6x}{3} + \frac{3}{3} \\ 2x + 1 \end{array}$$

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$x^0 = 1$ why?

$$\frac{x^3}{x^3} = \frac{\boxed{x} \cdot \boxed{x} \cdot \boxed{x}}{\boxed{x} \cdot \boxed{x} \cdot \boxed{x}} = 1 \cdot 1 \cdot 1 = 1$$

$$x^{3-3} = x^0 = 1$$

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#16)

$$x^2 + x - 42$$

Guess & Check Method

$$(x + 7)(x - 6)$$

Un FOIL

F: $x \cdot x = x^2$
 O: $x \cdot (-6) = -6x$
 I: $7 \cdot x = 7x$
 L: $7 \cdot (-6) = -42$

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17) a^2
 $81 - 49x^2$ Difference of two Squares
 $a=9$ $b=7x$
 $(9+7x)(9-7x)$
 $a^2 - b^2 = (a+b)(a-b)$
Need to know!

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$16y^2 - 36$
 $4y$ 6
 $(4y+6)(4y-6)$
 F: $4y \cdot 4y = 16y^2$ ✓
 O: $4y \cdot (-6) = -24y$
 I: $6 \cdot (4y) = 24y$
 L: $6 \cdot (-6) = -36$
 $16y^2 - 36$

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