

Algebra

Monday 3-11-13

Class Notes

- Fraction/Sign Rules - Worksheet Review.

Ch. 6-6 Special Products of Binomials

(EX) $(x+4)^2 \Rightarrow$ leads to a
PST

"Perfect Square
Trinomial"

(EX) $(2x-5)^2$

(EX) $(x-7)^2$

$(x+3)(x-3) \Rightarrow$ leads to a
"Difference of Squares"
Binomial

Sign Rules

$$+, - \quad \text{SSA, KSS} \quad \text{(EX)} \quad -4 - 5 = -9$$

$$\text{DSS, BOW} \quad \text{(EX)} \quad -4 + 5 = 1$$

$$- - = + \quad \text{(EX)} \quad -4(-)5 = 1$$

$$\cdot, \div \quad \text{SPDN} \quad \text{(EX)} \quad -4(-5) = 20$$

$$\text{(EX)} \quad \frac{-4}{-5} = \frac{4}{5}$$

Fraction Rules

$$+, - \quad \text{Common Denominator} \quad \text{(EX)} \quad \frac{1}{2} + \frac{1}{3}$$

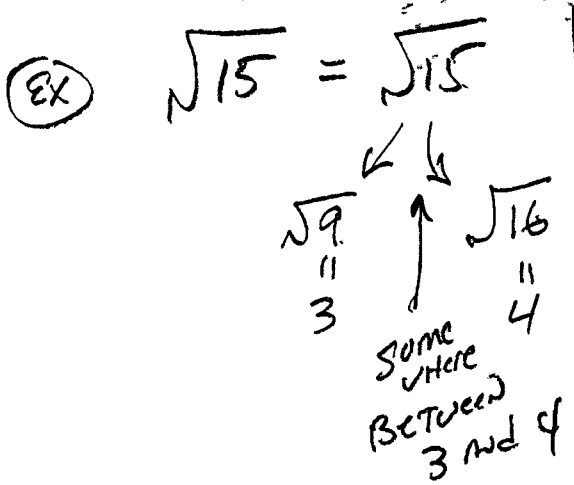
$$\frac{1}{6} + \frac{1}{6} = \frac{2}{6}$$

$$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$

$$\cdot \quad \frac{\text{tops} \cdot \text{tops}}{\text{bottoms} \cdot \text{bottoms}} \quad \text{(EX)} \quad \frac{1}{2} \cdot \frac{1}{3} = \frac{1}{6}$$

$$\div \quad \text{FIM} \quad \text{(EX)} \quad \frac{\frac{1}{2}}{\frac{1}{3}} = \frac{1}{2} \cdot \frac{3}{1} = \frac{3}{2}$$

NOT PERFECT SQ



PERFECT SQUARE

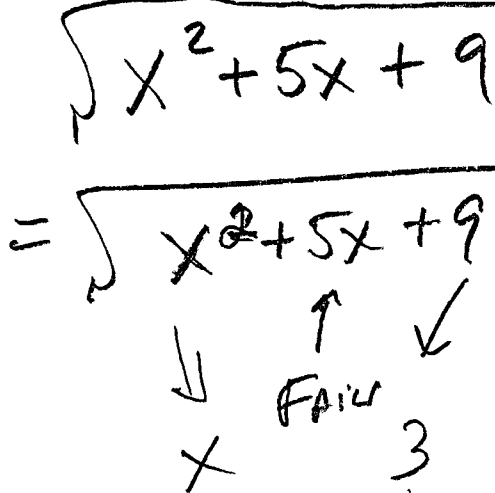
$\sqrt{16} = 4$

PERFECT SQUARE (1 to 400)

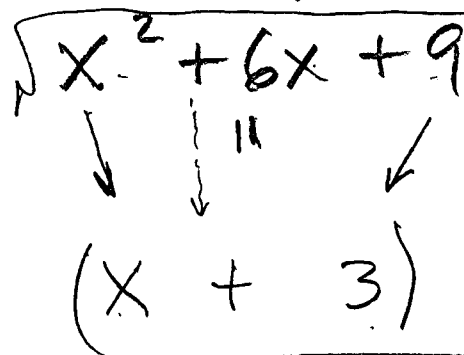
(EX)

1	36	121	256
4	49	144	289
9	64	169	324
16	81	196	361
25	100	225	400

NOT a Perf Sq



Perf Sq



Prove it

$(x+3)^2 =$

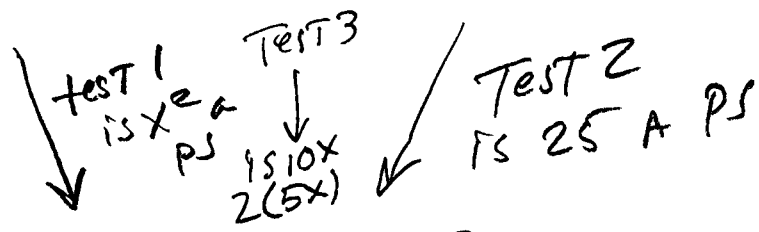
$(x+3)(x+3)$

$x^2 + 3x + 3x + 9$

$x^2 + 6x + 9$ ✓

$$x^2 + 10x + 25$$

3 part
test to
see if
PST



$$(x + 5)^2$$

$$x^2 - 10x + 25$$

$$(x - 5)^2$$

$$(x - 5)(x - 5)$$

$$x^2 - 5x - 5x + 25$$

$$x^2 - 10x + 25 \checkmark$$

$$(a+b)(a+b) = a^2 + 2ab + b^2$$

$(a+b)^2$ PST PATTERN

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

$$(x-5)(x+5)$$

CONJUGATES

$$x^2 + \cancel{5x} - \cancel{5x} - 25$$

$x^2 - 25 \Rightarrow$ DIFFERENCE OF SQUARES

$$(x-5)(x+5)$$

$$a^2 - b^2 = (a-b)(a+b) \text{ or } (a+b)(a-b)$$

DOS

$$\textcircled{\text{ex}} (x+2)(x-2) = x^2 - 4$$

$$(2y+3)(2y-3) = 4y^2 - 9$$

$$(5x-3)(5x+3) = 25x^2 - 9$$

$$36x^2 - 16 = (6x-4)(6x+4)$$

$$49x^2 - 1 = (7x-1)(7x+1)$$

$$\frac{49x^2 - 1}{7x - 1} = \frac{(7x-1)(7x+1)}{(7x-1)}$$

$$= 7x + 1$$