November 13, 2015

Exam #2

	High	Avg.
9:00	97	51
10:00	87	51

Nov 13-9:53 AM

#11) $(-2,5)$ & $(6,-8)$

$m = \frac{(-8)-(5)}{(6)-(-2)} = \frac{-13}{8}$

neg = m

* use $y = mx + b$

$(5) = -\frac{13}{8}(-2) + b$

$5 = \frac{26}{8} + b$

$5 = \frac{13}{4} + b$

$\frac{5}{1} - \frac{13}{4} = b$

$\frac{20}{4} - \frac{13}{4} = b$

$\frac{7}{4} = b$

$y = -\frac{13}{8}x + \frac{7}{4}$

$8y = -13x + 14$

S.F.

$Ax + By = C$

$13x + 8y = 14$

Ch using $(6,-8)$

$13(6) + 8(-8) = 14$

$78 - 64 = 14$

$14 = 14$ ✓

Nov 13-10:02 AM

#14) $9x^4 - 3x^3 + 18x^2 - 21$

GCF = 3

$3(3x^4 - x^3 + 6x^2 - 7)$

Nov 13-10:10 AM

* Exam #3 - December 6

* Final - December 11

Nov 13-10:12 AM

$4x^2 + 0x - 9$ $\quad ac = (4)(-9) = -36$

$b = 0$

$4x^2 + 6x - 6x - 9$ $\quad \frac{+}{6} \mid \frac{-}{6}$ $\quad x$ $\quad +$ $\quad$ ✓ ✓

$2x(2x+3) - 3(2x+3)$

$(2x+3)(2x-3)$

$4x^2 - 6x + 6x - 9$

$4x^2 - 9$ ← Difference of Two Squares

$(2x)^2$ Diff $(3)^2$

Nov 13-10:20 AM

Difference of Two Squares

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

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

F O I L

$= a^2 - b^2$

x^1	x^2
0	0
1	1
2 ←	4
3	9
4 ←	16
5	25
6	36
⋮	⋮

$4y^2 - 16$

$a^2 - b^2$

$a = 2y \quad b = 4$

$(2y+4)(2y-4)$

Nov 13-10:28 AM

① $x^2 - 1 = (x+1)(x-1)$
$a = x \quad b = 1$

② $121 - 49t^2 = (11 + 7t)(11 - 7t)$
$a = 11 \quad b = 7t$ $\neq (7t+11)(7t-11)$

③ $x^2y^2 - 25 = (xy+5)(xy-5)$
$a = xy \quad b = 5$

$4x^2 + 36 \neq (2x+6)(2x+6)$
$a = 2x \quad b = 6$ $= 4x^2 + 24x + 36$

* There is no Sum of Two Squares that is factorable!

Nov 13-10:36 AM

Sum and Difference of Two Cubes

Sum: $a^3 + b^3 = (a+b)(a^2 - ab + b^2)$

Nov 13-10:43 AM