November 13, 2017

Exam # 2

	high	avg
9:00	97	51
10:00	87	51

Nov 13-8:06 AM

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

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

neg.

* use $y = mx + b$

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

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

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

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

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

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

$8\left(y = -\frac{13}{8}x + \frac{7}{4}\right)$

$8y = -13x + 14$

S.F. $Ax + By = C$

$13x + 8y = 14$

$13x + 8y = 14$

Nov 13-9:02 AM

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

GCF = 3

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

Factoring Steps

* ① Factor out a GCF if it exists
② Factoring by Grouping (if we have four terms)
③ Factoring using ac & b method

Nov 13-9:08 AM

* Exam #3 – December 6
* Trial – December 13

Nov 13-9:17 AM

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

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

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

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

+	−
6	6

$\times +$

F: $2x \cdot 2x = 4x^2$

O: $2x \cdot (-3) = -6x$

I: $3 \cdot (2x) = 6x$ } $0x = 0$

L: $3 \cdot (-3) = -9$

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

$(2x)^2$ diff $(3)^2$

Nov 13-9:18 AM

Difference of Two Squares

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

$= F: a \cdot a = a^2$

$O: a \cdot -b = -ab$

$I: b \cdot a = ab$ } $= 0$

$L: b \cdot -b = -b^2$

$= a^2 - b^2$

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

$4y^2 - 25$

$a = 2y$ & $b = 5$

$(2y+5)(2y-5)$

Nov 13-9:26 AM

① $x^2 - 1 = (x+1)(x-1)$

$a = x$ $b = 1$

② $49 - x^2y^2 = (7+xy)(7-xy)$

$a = 7$ $b = xy$

③ $144x^2 - 81y^2 = (12x+9y)(12x-9y)$

$a = 12x$ $b = 9y$

$x^2 + 25 \neq (x+5)(x+5)$

$= x^2 + 10x + 25$

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

Nov 13-9:32 AM

Sum and Difference of Two Cubes

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

$27x^3 + 125 = (3x+5)(9x^2 - 15x + 25)$

a^3 b^3

$a = 3x$ $b = 5$

$= 27x^3 - 45x^2 + 75x + 45x^2 - 75x + 125$

$= 27x^3 + 125$ ✓

Nov 13-9:38 AM