48/48 = 100

Math 0097
University of North Georgia
Spring 2015
Exam #3

Name: Key Date: April 02, 2015

Factor the following completely. ***Hint: think the Distributive Tool!***

1. $30x - 15$ GCF = 15

$15(2x - 1)$

2. $6x^3 - 9x^2 + 12x$ GCF = $3x$

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

3. $a^7b^6 - a^3b^2 + a^2b^5 - a^2b^2$ GCF = a^2b^2

$a^2b^2(a^5b^4 - a + b^3 - 1)$

4. $z(y+4) - (y+4)$ GCF = $(y+4)$

$(y+4)(z-1)$

Factor the four-term polynomial by *Grouping*.

5. $x^3 + 4x^2 + 3x + 12$

$x^2(x+4) + 3(x+4)$

$(x+4)(x^2+3)$

↳ note: Not a Difference of Two Squares!

Factor each trinomial completely. If it is not factorable, show why and write *Relatively Prime.*

6. $x^2 - 8x + 15$ $ac = 15$ $b = -8$

−	−
5	3

$(x - 5)(x - 3)$

7. $x^2 + 4x - 10$ $ac = -10$ $b = 4$

+	−	P	S
5	2	✗	✗
10	1	✓	✗

$(x + \quad)(x - \quad)$

Relatively Prime

8. $x^2 + 7xy + 10y^2$ $ac = 10$ $b = 7$

+	+
5	2

$(x + 5y)(x + 2y)$

9. $3y^2 - 5y - 8$ $ac = -24$ $b = -5$

−	+
8	3

$3y^2 - 8y + 3y - 8$

$y(3y - 8) + 1(3y - 8)$

$(3y - 8)(y + 1)$

10. $6x^2 - 2x - 20$ $ac = -120$ $b = -2$

−	+
12	10

$6x^2 - 12x + 10x - 20$

$6x(x - 2) + 10(x - 2)$

$(x - 2)(6x + 10)$

$2(x - 2)(3x + 5)$

Solve the equation.

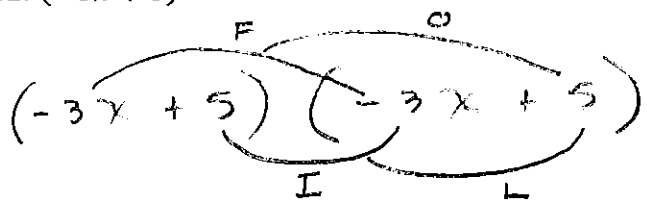
11. $2(3y - 4) = 6 + 7y$

$6y - 8 = 6 + 7y$

$-14 = y$

Multiply

12. $(-3x + 5)^2$



FOIL

F: $(-3x)(-3x) = 9x^2$

O: $(-3x)(5) = -15x$

I: $(5)(-3x) = -15x$ } $-30x$

L: $(5)(5) = 25$

$9x^2 - 30x + 25$