Geometry CC
Factoring Test REVIEW

Name: KEY
Date: _____ Period: _____

Factor the expression:

1. $12x^2 - 40x - 32$

$4(3x^2 - 10x - 8)$

$3x^2 - 12x + 2x - 8$

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

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

2. $x^2 - 3x - 18$

$(x-6)(x+3)$

3. $x^2 - 21x - 110$

$(x \quad)(x \quad)$

Not Factorable

4. $-15x^2 + 3x + 12$

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

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

$5x(x-1) + 4(x-1)$

$-3(x-1)(5x+4)$

5. $2x^2 - 5x + 1$

Not Factorable

6. $x^2 - 100$

$(x+10)(x-10)$

7. $20x^2 - 54x + 36$

$2(10x^2 - 27x + 18)$

$10x^2 - 12x - 15x + 18$

$2x(5x-6) - 3(5x-6)$

$2(5x-6)(2x-3)$

8. $x^2 - 20x + 99$

$(x-11)(x-9)$

9. $6x^2 - 21x + 15$

$3(2x^2 - 7x + 5)$

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

$2x(x-1) - 5(x-1)$

$3(x-1)(2x-5)$

10. $9x^2 + 21x + 10$

$9x^2 + 15x + 6x + 10$

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

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

11. $x^2 - 13x + 42$

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

12. $x^2 + x - 20$

$(x+5)(x-4)$

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13. $3x^2 - 48$

$3(x^2-16)$

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

14. $4x^3 - 100x$

$4x(x^2-25)$

$4x(x-5)(x+5)$

15. $2x^4 + 5x^2 + 3$

$2x^4+2x^2+3x^2+3$

$2x^2(x^2+1)+3(x^2+1)$

$(x^2+1)(2x^2+3)$

DISTRIBUTE/FOIL

1) $4x(x-3)$

$4x^2-12x$

2) $(x-2)(2x+7)$

$2x^2+7x-4x-14$

$2x^2+3x-14$

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

$9x^2+12x-12x-16$

$9x^2-16$

USE PROPERTIES OF EXPONENTS TO SIMPLIFY

4) $x^2 \cdot x^4$

x^6

5) $(x^3)^5$

x^{15}

6) $\frac{12x^5y^2}{2xy^4} = \frac{6x^4}{y^2}$

FACTOR $x^2 + bx + c$

7) $x^2 + 19x + 60$

$(x+15)(x+4)$

8) $x^2 + 7x - 18$

$(x+9)(x-2)$

9) $x^2 - 5x - 24$

$(x-8)(x+3)$

10) $x^2 - 10x + 16$

$(x-8)(x-2)$

11) $x^2 + 10x + 21$

$(x+7)(x+3)$

12) $x^2 + x - 12$

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

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FACTOR $ax^2 + bx + c$

13) $2x^2+11x+12$

$2x^2+8x+3x+12$

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

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

14) $5x^2-14x+8$

$5x^2-10x-4x+8$

$5x(x-2)-4(x-2)$

$(x-2)(5x-4)$

15) $4x^2+7x-2$

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

$4x(x+2)-1(x+2)$

$(x+2)(4x-1)$

16) $4x^2+19x-5$

$4x^2+20x-x-5$

$4x(x+5)-1(x+5)$

$(x+5)(4x-1)$

17) $2x^2+9x+10$

$2x^2+4x+5x+10$

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

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

18) $6x^2-13x+6$

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

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

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

TAKE OUT A GCF

19) $6x^2+24x$

$6x(x+4)$

20) $5(x+2)-3x(x+2)$

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

21) $3x^2-6x-45$

$3(x^2-2x-15)$

$\downarrow$

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

FACTOR SPECIAL SITUATIONS

22) x^2-25

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

23) $4x^2-4x+1$

$4x^2-2x-2x+1$

$2x(2x-1)-1(2x-1)$

$(2x-1)(2x-1)$

$\downarrow$

$(2x-1)^2$

24) $49y^2-4x^2$

$(7y+2x)(7y-2x)$