Geometry CC
Factoring Review

Name: KEY
Date: _____ Period: ____

Factor out the GCF (Greatest Common Factor):

1. $r^2 + 2rs$

$r(r+2s)$

2. $6w^2 - 14w^2$

$2w^2(3-7)$

$2w^2(-4)$

3. $35a^2b^2 - 5ab$

$5ab(7ab-1)$

4. $-3p^4 + 15p^2 + 6p$

$-3p(p^3-5p-2)$

Factor completely:

5. $b^2 - 7b + 10$

$(b-5)(b-2)$

6. $y^2 - 5y - 24$

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

7. $n^2 + 2n - 48$

$(n+8)(n-6)$

8. $a^2 + 13a + 36$

$(a+9)(a+4)$

9. $w^2 - 13w + 42$

$(w-7)(w-6)$

10. $d^2 + 5d - 50$

$(d+10)(d-5)$

10. $x^2 + 11x + 24$

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

12. $z^2 - z - 30$

$(z-6)(z+5)$

13. $-p^2 + 8p - 12$

$-(p^2-8p+12)$

$-(p-6)(p-2)$

14. $5d^2 - 18d - 8$

-40

$(5d^2-20d)(+2d-8)$

$5d(d-4)+2(d-4)$

$(d-4)(5d+2)$

15. $6c^2 + 7c + 2$

12

$(6c^2+3c)(+4c+2)$

$3c(2c+1)+2(2c+1)$

$(2c+1)(3c+2)$

16. $-m^2 - 10m - 16$

$-(m^2+10m+16)$

$-(m+8)(m+2)$

17. $12n^2 - 11n + 2$

24

$(12n^2-3n)(-8n+2)$

$3n(4n-1)-2(4n-1)$

$(4n-1)(3n-2)$

18. $36m^2 - 81$ ← Diff. of Two Squares

$(6m+9)(6m-9)$

Geometry CC
Factoring Review

Name: _____
Date: _____ Period: ____

19. $-2x^2 + 32$

$-2(x^2 - 16)$ ← Diff. of Two Squares

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

20. $64t^2 - 100$

$4(16t^2 - 25)$ ← Diff. of Two Squares

$4(4t+5)(4t-5)$

21. $9c^2 + 24c + 16$

144

$(9c^2+12c)(+12c+16)$ → $(3c+4)^2$

$3c(3c+4)+4(3c+4)$

22. $16n^2 - 56n + 49$

784

$(16n^2-28n)(-28n+49)$ → $(4n-7)^2$

$4n(4n-7)-7(4n-7)$

23. $20z^2 - 140z + 245$

$5(4z^2 - 28z + 49)$

196

$(4z^2-14z)(-14z+49)$ → $(2z-7)^2$

$2z(2z-7)-7(2z-7)$

24. $y^3 - 14y^2 + y - 14$ ← Group!

$y^2(y-14)+1(y-14)$

$(y-14)(y^2+1)$

25. $p^3 + 9p^2 + 4p + 36$ ← Group!

$p^2(p+9)+4(p+9)$

$(p+9)(p^2+4)$

26. $4m^3 - 16m$

$4m(m^2-4)$

$4m(m+2)(m-2)$

27. $48r^3 - 30r^2$

$2r^2(24r-15)$

28. $18xy - 24x^2$

$6x(3y-4x)$

29. $48y^4 - 3y^2$

$3y^2(16y^2-1)$

$3y^2(4y+1)(4y-1)$

30. $2c^3 + 8c^2 - 42c$

$2c(c^2+4c-21)$

$2c(c+7)(c-3)$