Algebraic Connections Name: KEY

WS F.22 – Review for Test 2 on Polynomials Date: _____

Find the GCF and write the polynomial in factored form.

1. $a^2 + 4a$

$a(a+4)$

2. $27y^5 - 9y^3$

$9y^3(3y^2 - 1)$

3. $15k^3 + 5k + 10$

$5(3k^3 + k + 2)$

4. $2f^3 - 18f^2 + 8f$

$2f(f^2 - 9f + 4)$

$2f(f^2 - 9f + 4)$

Factor the following by grouping

5. $ac - ad + 2bc - 2bd$

$a(c-d) + 2b(c-d)$

$(a+2b)(c-d)$

6. $eg + 3eh - fg - 3fh$

$e(g+3h) - f(g+3h)$

$(e-f)(g+3h)$

7. $12wy - 6wz + 8xy - 4xz$

$6w(2y-z) + 4x(2y-z)$

$(6w+4x)(2y-z)$

$2(3w+2x)(2y-z)$

8. $9ac + 3ad + 27bc + 9bd$

$3a(3c+d) + 9b(3c+d)$

$(3a+9b)(3c+d)$

$3(a+3b)(3c+d)$

Use special factoring patterns to factor the following:

9. $r^2 - 16r + 64$

$(r-8)^2$

10. $a^2 - 16$

$(a-4)(a+4)$

11. $4x^2 - 64$

$4(x^2 - 16)$

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

12. $9z^2 + 12z + 4$

$(3z+2)^2$

Factor the following trinomials

13. $x^2 - 9x - 10$

$(x-10)(x+1)$

14. $t^2 - 2t - 35$

$(t-7)(t+5)$

15. $k^2 + k - 20$

$(k-4)(k+5)$

16. $x^2 - 11x + 28$

$(x-7)(x-4)$

17. $p^2 - 4p - 21$

$(p-7)(p+3)$

18. $6x^2 - 11x + 4$

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

19. $8x^2 - 2x - 3$

$(2x+1)(4x-3)$

20. $15x^2 + x - 2$

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