7-2 GCF/Factoring by Grouping
Secondary II
Objective: I can factor out the greatest common factor.
I can factor by grouping.

Name: Answer Key
Period: 0

Factor out the Greatest Common Factor.

1. $a^2b + 7ab$

$ab(a+7)$

2. $18x^2y^3 - 6xy^2$

$6xy^2(3xy-1)$

3. $3b^3 + 9b^2 + 18b$

$3b(b^2+3b+6)$

4. $4m^3 + 8m^2 - 16m$

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

Factor out the Greatest Common Binomial Factor.

5. $n(n-9) - 1(n-9)$

$(n-9)(n-1)$

6. $x(x-4) + 6(x-4)$

$(x-4)(x+6)$

7. $k(k-8) - 5(k-8)$

$(k-8)(k-5)$

8. $z(z-12) - 2(z-12)$

$(z-12)(z-2)$

9. $2n(n-6) + 18(n-6)$

$(n-6)(n-6)$

10. $4v(v-2) + 4(v-2)$

$(4v+4)(v-2)$

11. $2p(p+2) - 2(p+2)$

$(2p-2)(p+2)$

12. $p(3p-5) + 1(3p-5)$

$(p+1)(3p-5)$

Factor by grouping.

13. $(3n^2 - 6n) + (-2n + 4)$

$3n(n-2) - 2(n-2)$

$(3n-2)(n-2)$

14. $(2r^2 + r) + (10r + 5)$

$r(2r+1) + 5(2r+1)$

$(r+5)(2r+1)$

15. $(2n^2 - 3n) + (6n - 9)$

$n(2n-3) + 3(2n-3)$

$(n+3)(2n-3)$

16. $(2b^2 + b) + (-4b - 2)$

$b(2b+1) - 2(2b+1)$

$(b-2)(2b+1)$

17. $(36x^2 + 6x) + 6x + 1$

$6x(6x+1) + 1(6x+1)$

$(6x+1)(6x+1)$

$(6x+1)^2$

18. $6x^2 + 8x + 18x + 24$

$2(3x^2 + 4x) + (9x + 12)$

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

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

19. $9k^2 + 63k + 3k + 21$

$3(3k^2 + 21k) + (k + 7)$

$3(3k(k+7) + 1(k+7)$

$3(3k+1)(k+7)$

20. $(7x^2 - 3x) + 14x - 6$

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

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