

Name \_\_\_\_\_

Date \_\_\_\_\_

**Practice Set 7.1**

## The Greatest Common Factor and Factoring by Grouping

Factor each polynomial by factoring out the greatest common factor. If there is no common factor other than 1, and the polynomial cannot be factored, so state.

1.  $9x + 9$  1. \_\_\_\_\_

2.  $7x + 21$  2. \_\_\_\_\_

3.  $x^3 + 4x^2$  3. \_\_\_\_\_

4.  $8x^3 + 36x^2$  4. \_\_\_\_\_

5.  $18x^4 + 9x^2 + 3$  5. \_\_\_\_\_

6.  $15x^5 + 7x^2$  6. \_\_\_\_\_

7.  $4x^3 + 9$  7. \_\_\_\_\_

8.  $20x^4 + 16x^2 - 8x$  8. \_\_\_\_\_

9.  $6x^2y^3 + 15x^4y^2$  9. \_\_\_\_\_

10.  $12x^3y^4 + 30x^2y^5 + 48xy^6$  10. \_\_\_\_\_

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Factor each polynomial by factoring out the greatest common binomial factor.

11.  $x(x-4)+3(x-4)$  11. \_\_\_\_\_

12.  $2x(x+6)+5(x+6)$  12. \_\_\_\_\_

13.  $7x(x+9)-(x+9)$  13. \_\_\_\_\_

Factor each polynomial by grouping.

14.  $xy - 4x + 2y - 8$  14. \_\_\_\_\_

15.  $14 + 2a - 7b - ab$  15. \_\_\_\_\_

16.  $bx + 5x - 2by - 10y$  16. \_\_\_\_\_

17.  $mn + m + 8n + 8$  17. \_\_\_\_\_

18.  $14 - 7y - 2x + xy$  18. \_\_\_\_\_

19.  $2a + 6 + 3b + ab$  19. \_\_\_\_\_

20.  $xy - 2x - 5y + 10$  20. \_\_\_\_\_