

Assignment 4.3

Factor using greatest common factor.

1. $4x^4 + 12x^3$

2. $10y^2 + 4y - 64$

3. $16x^5 - 8x$

4. $32n^5 - 64n^3 + 16n^2$

5. $15p^6 - 5p^4 - 10p^2$

6. $36c^9 + 13$

Match the polynomial with its factorized form.

_____ 7. $3x^2 + 11x + 6$

A. $2x^3(x + 2)(x - 2)(x^2 + 3)$

_____ 8. $x^3 - 4x^2 + 4x - 16$

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

_____ 9. $125x^3 - 216$

C. $(3x + 2)(x + 3)$

_____ 10. $2x^7 - 2x^5 - 24x^3$

D. $(x^2 + 4)(x - 4)$

_____ 11. $2x^5 + 4x^4 - 4x^3 - 8x^2$

E. $2x^2(x^2 - 2)(x + 2)$

_____ 12. $2x^3 - 32x$

F. $(5x - 6)(25x^2 + 30x + 36)$

Factor the sum of difference of cubes.

13. $d^3 - 1$

14. $m^3 + 1$

15. $x^3 - 27$

16. $a^3 + 125$

17. $h^3 + 64$

18. $8y^3 - 125$

Factor each expression completely. If the expression cannot be factored, write "not factorable."

19. $3x^2 + 10x - 8$

20. $2x^2 + 5x - 3$

21. $4x^2 + 4x + 1$

22. $2x^2 - 5x + 1$

23. $4x^2 + 5x - 6$

24. $2x^2 + 11x + 15$

25. $9x^2 + 12x + 4$

26. $12x^2 - 24x - 9$

Multi-Factoring. Factor each polynomial completely, may require more than one type of factoring. If the polynomial cannot be factored, write "not factorable."

27. $14x^2 - 21x$

28. $c^3 + 9c^2 + 18c$

29. $3y^5 - 48y^3$

30. $18x^2 - 2$

31. $12x^2 - 39x + 9$

32. $20x^2 - 54x + 36$

** There is only one problem that is "not factorable".