

Factor out the greatest common factor (GCF) of the following:

1. $2x - 8$

2. $12x^2 + 10$

3. $3x^2 + 9$

4. $8 - 18x^2$

5. $12x^3 + 27$

6. $6x^2 - 10$

7. $20 + 28x$

8. $35x^3 + 15$

9. $9x^2 - 21x$

10. $15x^2 + 20x$

11. $12x^2 + 28x$

12. $15x^4 - 24x^2$

13. $24x^4 - 18x$

14. $12x^3 + 6x^2 - 30$

15. $4x^4 - 22x^2 + 18x$

Factor the following:

16. $21x^5 + 35x^3 + 49x^2$

17. $36c^7 + 42c^6$

18. $-30n^2 + 5n^7$

19. $6c^6 + 9c^7$

20. $x^2 + 18x + 17$

21. $n^2 + 2n - 8$

22. $m^2 + 11m + 10$

23. $p^2 + 10m - 200$

24. $f^2 - 21f + 68$

25. $k^2 - k - 42$

26. $n^2 - 3n - 54$

27. $k^2 + 7k - 30$

28. $x^2 - 8x - 9$

29. $x^2 - 2x - 48$

30. $x^2 - 5x - 14$

31. $x^2 - 4x - 21$

32. $x^2 - 4x - 12$

33. $x^2 - 8x - 9$

Factor the following (hint: divide out what they have in common first)

34. $4x^2 - 16x - 84$

35. $5x^2 + 55x + 50$

36. $3x^2 + 21x + 30$

37. $8x^2 + 24x - 80$

38. $4x^2 + 12x - 72$

39. $2x^2 - 10x + 12$

More Challenging Factoring:

40. $2x^2 - 5x - 3$

41. $5x^2 - 4x - 12$

42. $3x^2 + 16x + 21$

43. $7x^2 - 9x + 2$

$$44. 5x^2 + 13x - 6$$

$$45. 2x^2 + x - 28$$

$$46. m^2 - 4$$

$$47. 49x^2 - 81$$

$$48. 25x^2 - 16$$

Factor the following and find the roots/zeros of the graph

$$49. v^2 - 4v - 5$$

$$50. x^2 + 9x - 10$$

$$51. x^2 - 23x + 112$$

$$52. 3b^2 + 10b + 3$$

$$53. x^2 + 22x + 96$$

$$54. n^2 + 16n + 28$$

55. $d^2 - 225$

56. $4x^2 + 28x - 72$

57. $2t^2 - 18$

58. $2m^2 - 5m - 3$

59. $3x^2 - 23x - 8$

60. $5w^2 - 12w + 7$