MPM2D - Worksheet - Factoring

Factor the following perfect square trinomials:

1. $9x^2 + 42x + 49$

2. $25x^2 - 80x + 64$

3. $4x^2 - 44x + 121$

4. $144x^2 - 168x + 49$

5. $49x^2 - 42x + 9$

Factor using difference of squares:

6. $196x^2 - 9$

7. $16x^2 - 169$

8. $100x^2 - 1$

9. $x^2 - 81$

10. $121x^2 - 36$

Factor, looking for common factors first:

11. $-405x^2 + 990x - 605$

12. $810x^2 - 10$

13. $-27x^2 + 192$

14. $363x^2 - 462x + 147$

15. $-108x^2 + 180x - 75$

16. $4x^2 - 100$

17. $810x^2 + 1980x + 1210$

18. $250x^2 - 490$

Fully factor:

19. $100x^2 - 20x + 1$

20. $3x^2 - 300$

21. $18x^2 - 32$

22. $25x^2 - 9$

23. $81x^2 - 64$

24. $169x^2 - 100$

25. $9x^2 - 25$

26. $49x^2 - 70x + 25$

27. $-48x^2 + 243$

28. $48x^2 - 72x + 27$

29. $4x^2 - 36x + 81$

30. $-8x^2 - 56x - 98$

31. $250x^2 + 800x + 640$

32. $-108x^2 + 147$

33. $64x^2 - 81$

34. $36x^2 - 48x + 16$

35. $36x^2 + 60x + 25$

36. $9x^2 - 30x + 25$

37. $-5x^2 + 80$

38. $160x^2 - 240x + 90$

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Answer Section

1. Perfect Square: $(3x+7)(3x+7)$
2. Perfect Square: $(5x-8)(5x-8)$
3. Perfect Square: $(2x-11)(2x-11)$
4. Perfect Square: $(12x-7)(12x-7)$
5. Perfect Square: $(7x-3)(7x-3)$
6. Difference of Squares: $(14x+3)(14x-3)$
7. Difference of Squares: $(4x+13)(4x-13)$
8. Difference of Squares: $(10x+1)(10x-1)$
9. Difference of Squares: $(x-9)(x+9)$
10. Difference of Squares: $(11x+6)(11x-6)$
11. Common Factor, Perfect Square: $-5(9x-11)(9x-11)$
12. Common Factor, Difference of Squares: $10(9x+1)(9x-1)$
13. Common Factor, Difference of Squares: $-3(3x+8)(3x-8)$
14. Common Factor, Perfect Square: $3(11x-7)(11x-7)$
15. Common Factor, Perfect Square: $-3(6x-5)(6x-5)$
16. Common Factor, Difference of Squares: $4(x+5)(x-5)$
17. Common Factor, Perfect Square: $10(9x+11)(9x+11)$
18. Common Factor, Difference of Squares: $10(5x+7)(5x-7)$
19. Perfect Square: $(10x-1)(10x-1)$
20. Common Factor, Difference of Squares: $3(x+10)(x-10)$
21. Common Factor, Difference of Squares: $2(3x+4)(3x-4)$
22. Difference of Squares: $(5x-3)(5x+3)$
23. Difference of Squares: $(9x+8)(9x-8)$
24. Difference of Squares: $(13x+10)(13x-10)$
25. Difference of Squares: $(3x-5)(3x+5)$
26. Perfect Square: $(7x-5)(7x-5)$
27. Common Factor, Difference of Squares: $-3(4x+9)(4x-9)$
28. Common Factor, Perfect Square: $3(4x-3)(4x-3)$
29. Perfect Square: $(2x-9)(2x-9)$
30. Common Factor, Perfect Square: $-2(2x+7)(2x+7)$
31. Common Factor, Perfect Square: $10(5x+8)(5x+8)$
32. Common Factor, Difference of Squares: $-3(6x+7)(6x-7)$
33. Difference of Squares: $(8x+9)(8x-9)$
34. Common Factor, Perfect Square: $4(3x-2)(3x-2)$
35. Perfect Square: $(6x+5)(6x+5)$
36. Perfect Square: $(3x-5)(3x-5)$
37. Common Factor, Difference of Squares: $-5(x+4)(x-4)$
38. Common Factor, Perfect Square: $10(4x-3)(4x-3)$