

Name _____

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Additional Exercises 6.4
Form I
Factoring Special Forms

Factor each difference of two squares.

1. $x^2 - 64$

1. _____

2. $a^2 - 1$

2. _____

3. $y^2 - 100$

3. _____

4. $4x^2 - 25$

4. _____

Factor any perfect square trinomials, or state that the polynomial is prime.

5. $x^2 + 10x + 25$

5. _____

6. $y^2 + 6y + 9$

6. _____

7. $a^2 - 8a + 16$

7. _____

8. $a^2 - 20a + 100$

8. _____

Factor each sum or difference of two cubes.

9. $x^3 - 1$

9. _____

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10. $y^3 + 64$

10. _____

11. $x^3 - 8y^3$

11. _____

12. $a^3 + 27b^3$

12. _____

Factor each polynomial completely, or state that the polynomial is prime.

13. $2x^2 - 2$

13. _____

14. $3x^2 - 24x + 48$

14. _____

15. $x^3 - 16x$

15. _____

16. $5y^2 + 20y + 20$

16. _____

17. $7x^2 - 28$

17. _____

18. $100x^2 - 400y^2$

18. _____

19. $4a^2 - 40a + 100$

19. _____

20. $8x^2 + 48x + 72$

20. _____

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Additional Exercises 6.4
Form II
Factoring Special Forms

Factor each difference of two squares.

1. $x^2 - 121$

1. _____

2. $4a^2 - 81$

2. _____

3. $16y^2 - 169$

3. _____

4. $x^2 - 225$

4. _____

Factor any perfect square trinomials, or state that the polynomial is prime.

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

5. _____

6. $y^2 + 3y + 9$

6. _____

7. $x^2 - 10xy + 25y^2$

7. _____

8. $4x^2 + 6xy + 9$

8. _____

Factor each sum or difference of two cubes.

9. $x^3 - 1000$

9. _____

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10. $a^3 + 8b^3$ 10. _____

11. $y^3 - 27$ 11. _____

12. $25x^2 + 30xy + 9y^2$ 12. _____

Factor each polynomial completely, or state that the polynomial is prime.

13. $5x^2 - 20$ 13. _____

14. $12x^2 + 60x + 75$ 14. _____

15. $x^2 + 25$ 15. _____

16. $ab^4 - 64a^3b^2$ 16. _____

17. $9y^3 - 9y$ 17. _____

18. $12x^3 + 84x^2 + 147x$ 18. _____

19. $x^4 - 16$ 19. _____

20. $20x^2 - 125$ 20. _____

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Additional Exercises 6.4
Form III
Factoring Special Forms

Factor each difference of two squares.

1. $49x^2 - 64$

1. _____

2. $y^2 + 16$

2. _____

3. $x^2 - 12x + 36$

3. _____

4. $18a^2 - 72$

4. _____

5. $9x^2 - 30x + 25$

5. _____

6. $32x^2 + 48x + 18$

6. _____

7. $a^3 + 125b^3$

7. _____

8. $49x^2 + 14x + 1$

8. _____

9. $4x^3 - 36xy + 81y^2$

9. _____

10. $8 - m^3$

10. _____

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11. $32x^2 - 98$

11. _____

12. $16x^2 + 64y^2$

12. _____

13. $20x^2 + 100xy + 125y^2$

13. _____

14. $54x^4 + 128y^3$

14. _____

15. $25x^2 + 121$

15. _____

16. $16a^3 - 54b^3$

16. _____

17. $81m^2 + 234mn + 169n^2$

17. _____

18. $x^6 - 81y^4$

18. _____

19. $(x+8)^2 - 4$

19. _____

20. $25a^2 + 150a + 225$

20. _____