

Name _____

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Additional Exercises 6.5
Form I
A General Factoring Strategy

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

1. $x^2 - 64$ 1. _____

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

3. $a^2 - 14a + 14$ 3. _____

4. $3x^2 - 18$ 4. _____

5. $10x^2 + 17x + 3$ 5. _____

6. $x^2 + 9x + 14$ 6. _____

7. $x^4 + 4x^3 - 12x^2$ 7. _____

8. $xy + 5y - 4x - 20$ 8. _____

9. $2a^2 + 4a + 2$ 9. _____

10. $y^3 - 5y^2 - 24y$ 10. _____

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11. $6m^2 + 17m + 12$

11. _____

12. $4x^2 - 64$

12. _____

13. $x^3 - 8x^2 + 4x - 32$

13. _____

14. $14x^2 - 7x - 105$

14. _____

15. $2y^3 - 16$

15. _____

16. $16a^2 + 9b^2$

16. _____

17. $4x^5 - 8x^3$

17. _____

18. $30x^3y - 9x^2y - 12xy$

18. _____

19. $40x^3 - 5$

19. _____

20. $4x^2y^2 + 16y^2 - 32x^2 - 128$

20. _____

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Additional Exercises 6.5
Form II
A General Factoring Strategy

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

1. $y^3 - 64$ 1. _____

2. $3x^2 - 75$ 2. _____

3. $16x^2 - 16x - 60$ 3. _____

4. $x^2y - 4x^2 + 6y - 24$ 4. _____

5. $21x^2 - 52x + 32$ 5. _____

6. $36x^2 - 25y^2$ 6. _____

7. $4a^3 + 256$ 7. _____

8. $5x^3y - 4xy^2$ 8. _____

9. $6x^2 + 84x + 294$ 9. _____

10. $12x^2 + 41x + 24$ 10. _____

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11. $48y^3 - 6$

11. _____

12. $18xy - 12x + 45y - 10$

12. _____

13. $16a^2 + 81$

13. _____

14. $a^3b^2 + 2a^2b^3 + ab^4$

14. _____

15. $48x^2 - 64x - 35$

15. _____

16. $4x^2 + 8x + 25$

16. _____

17. $3a^3 - 375b^3$

17. _____

18. $16x^4 - 81$

18. _____

19. $18x^3 + 12x^2 + 2x$

19. _____

20. $x^3y^3 - 3xy^3 + 4x^3 - 12x$

20. _____

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Additional Exercises 6.5
Form III
A General Factoring Strategy

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

1. $a^4 - 81$ 1. _____

2. $18x^2 + 9x - 35$ 2. _____

3. $8y^3 - 125$ 3. _____

4. $12x^2y^2 + 9x^2 - 8y^2 - 6$ 4. _____

5. $44a^2 + 44a - 33$ 5. _____

6. $64y^2 - 25$ 6. _____

7. $5x^2y + 14x^2y - 24xy$ 7. _____

8. $40a^2b + 32a^2 - 50ab^2 - 40ab$ 8. _____

9. $36y^2 - 84y + 49$ 9. _____

10. $81x^4 - 625$ 10. _____

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11. $45a^2 - 120a + 80$

11. _____

12. $16x^2 + 20xy + 25y^2$

12. _____

13. $18x^3y^2 - 25x^2y^3 - 50xy^4$

13. _____

14. $54a^3 + 16$

14. _____

15. $25y^2 - 100$

15. _____

16. $10x^2 - 21x - 108$

16. _____

17. $x^6 - y^6$

17. _____

18. $45x^2 + 162x - 72$

18. _____

19. $a^6 - 8b^6$

19. _____

20. $16a^{10} + 9b^{10}$

20. _____