

4-6/4-7 Practice

Name: _____

Period: _____

#1-19 Odd
#21-30 All

Using Several Methods of Factoring

1. $x^3 - 2x^2 - 24x$ $x(x-6)(x+4)$ 2. $4x^2 - 36$ _____

3. $a^3 - 16ab^2$ _____ 4. $6x^3 - 4x^2 - 2x$ _____

5. $3x^2 - 192$ _____ 6. $x^4 - 10x^2 + 9$ _____

7. $a^4 - b^4$ _____ 8. $(x-3)^2 - 1$ _____

9. $30x^2y + 5xy - 10y$ _____ 10. $3a^2 - 75$ _____

11. $3x^2 + 12xy + 12y^2$ _____ 12. $4x^4 - 38x^3 + 48x^2$ _____

13. $18x^3 + 24x^2 + 8x$ _____ 14. $2y^4 - 9y^2 + 4$ _____

15. $v^4 - 5v^2 + 4$ _____ 16. $4x^3 + 28x^2 - 120x$ _____

17. $3(a-1)^2 - 27$ _____ 18. $45x^2 - 42x^3 - 24x^4$ _____

19. $x^2(a-b) - (a-b)$ _____ 20. $4(y-5) - y^2(y-5)$ _____

21. $80 - 120p + 45p^2$ _____ 22. $8p^3q - 18pq^3$ _____

23. $180x^2y - 108xy^2 - 75x^3$ _____ 24. $81a + 18a^3 + a^5$ _____

25. $x^2 - 4y^2 - 4x + 4$ _____ 26. $m^8 - n^8$ _____

27. $3x^5 + 15x^3 - 108x$ _____ 28. $(u-v)^3 + v - u$ _____

29. $16t^4 - 8t^2 + 1$ _____ 30. $10xy^3 + 35xy^2 - 150xy$ _____

Name: _____

Period: _____

#1-29 odd

Solving Equations by Factoring

1. $a(a - 6) = 0$ {0, 6} 2. $(x + 6)(x - 3) = 0$ _____

3. $5x(x - 1) = 0$ _____ 4. $(f + 4)(2f - 5) = 0$ _____

5. $(n + 2)(n + 6) = 0$ _____ 6. $24n(n - 11) = 0$ _____

7. $n(n - 1)(n - 2) = 0$ _____ 8. $x(3x - 5)(x - 1) = 0$ _____

9. $x^2 - 7x - 18 = 0$ _____ 10. $z^2 + z - 6 = 0$ _____

11. $x^2 - x - 20 = 0$ _____ 12. $x^2 - 25 = 0$ _____

13. $a^3 - 9a = 0$ _____ 14. $2a^2 - 8a = 0$ _____

15. $x^2 = 49$ _____ 16. $2x^2 + x = 6$ _____

17. $a^2 = 5a - 6$ _____ 18. $(x - 3)(x + 8) = -30$ _____

19. $4x^3 - 12x^2 + 8x = 0$ _____ 20. $2n^3 - 30n^2 + 100n = 0$ _____

21. $9x^3 + 9x = 30x^2$ _____ 22. $9x^3 + 25x = 30x^2$ _____

23. $y^4 - 10y^2 + 9 = 0$ _____ 24. $u^5 - 13u^3 + 36u = 0$ _____

25. $(z + 1)(z - 5) = 16$ _____ 26. $(2t - 5)(t - 1) = 2$ _____

27. $(x - 2)(x + 3) = 6$ _____ 28. $(a - 5)(a - 2) = 28$ _____

29. $x(x - 6) = 4(x - 4)$ _____ 30. $3(m + 2) = m(m - 2)$ _____

Name: Key

Section: _____

Using Several Methods of Factoring

1. $x^3 - 2x^2 - 24x$ $x(x-6)(x+4)$
2. $4x^2 - 36$ $4(x+3)(x-3)$
3. $a^3 - 16ab^2$ $A(A+4B)(A-4B)$
4. $6x^3 - 4x^2 - 2x$ $2x(3x+1)(x-1)$
5. $3x^2 - 192$ $3(x+8)(x-8)$
6. $x^4 - 10x^2 + 9$ $(x+3)(x-3)(x+1)(x-1)$
7. $a^4 - b^4$ $(A^2+B^2)(A+B)(A-B)$
8. $(x-3)^2 - 1$ $(x-2)(x-4)$
9. $30x^2y + 5xy - 10y$ $5y(3x+2)(2x-1)$
10. $3a^2 - 75$ $3(A+5)(A-5)$
11. $3x^2 + 12xy + 12y^2$ $3(x+2y)^2$
12. $4x^4 - 38x^3 + 48x^2$ $2x^2(2x-3)(x-8)$
13. $18x^3 + 24x^2 + 8x$ $2x(3x+2)^2$
14. $2y^4 - 9y^2 + 4$ $(2y^2-1)(y+2)(y-2)$
15. $v^4 - 5v^2 + 4$ $(v+1)(v-1)(v+2)(v-2)$
16. $4x^3 + 28x^2 - 120x$ $4x(x+10)(x-3)$
17. $3(a-1)^2 - 27$ $3(A+2)(A-4)$
18. $45x^2 - 42x^3 - 24x^4$ $3x^2(5+2x)(3-4x)$
19. $x^2(a-b) - (a-b)$ $(A-B)(x+1)(x-1)$
20. $4(y-5) - y^2(y-5)$ $(y-5)(2+y)(2-y)$
21. $80 - 120p + 45p^2$ $5(4-3p)^2$
22. $8p^3q - 18pq^3$ $2pq(2p+3q)(2p-3q)$
23. $180x^2y - 108xy^2 - 75x^3$ $-3x(5x-6y)^2$
24. $81a + 18a^3 + a^5$ $A(A^2+9)^2$
25. $x^2 - 4y^2 - 4x + 4$ $(x-2+2y)(x-2-2y)$
26. $26.m^8 - n^8$ $(M^4+N^4)(M^2+N^2)(M+N)(M-N)$
27. $3x^5 + 15x^3 - 108x$ $3x(x+2)(x-2)(x^2+9)$
28. $(u-v)^3 + v - u$ $(u-v)(u-v+1)(u-v-1)$
29. $16t^4 - 8t^2 + 1$ $(2t+1)^2(2t-1)^2$
30. $10xy^3 + 35xy^2 - 150xy$ $5xy(2y-5)(y+6)$

Name: KeySection: 90 Pts.

Solving Equations by Factoring

1. $a(a - 6) = 0$ $\{0, 6\}$ 2. $(x + 6)(x - 3) = 0$ $\{3, -6\}$
3. $5x(x - 1) = 0$ $\{0, 1\}$ 4. $(f + 4)(2f - 5) = 0$ $\{-4, \frac{5}{2}\}$
5. $(n + 2)(n + 6) = 0$ $\{-2, -6\}$ 6. $24n(n - 11) = 0$ $\{0, 11\}$
7. $n(n - 1)(n - 2) = 0$ $\{0, 1, 2\}$ 8. $x(3x - 5)(x - 1) = 0$ $\{0, \frac{5}{3}, 1\}$
9. $x^2 - 7x - 18 = 0$ $\{9, -2\}$ 10. $z^2 + z - 6 = 0$ $\{-3, 2\}$
11. $x^2 - x - 20 = 0$ $\{5, -4\}$ 12. $x^2 - 25 = 0$ $\{-5, 5\}$
13. $a^3 - 9a = 0$ $\{0, -3, 3\}$ 14. $2a^2 - 8a = 0$ $\{0, 4\}$
15. $x^2 = 49$ $\{-7, 7\}$ 16. $2x^2 + x = 6$ $\{-2, \frac{3}{2}\}$
17. $a^2 = 5a - 6$ $\{2, 3\}$ 18. $(x - 3)(x + 8) = -30$ $\{-3, -2\}$
19. $4x^3 - 12x^2 + 8x = 0$ $\{0, 2, 1\}$ 20. $2n^3 - 30n^2 + 100n = 0$ $\{0, 5, 10\}$
21. $9x^3 + 9x = 30x^2$ $\{0, \frac{1}{3}, 3\}$ 22. $9x^3 + 25x = 30x^2$ $\{0, \frac{5}{3}\}$
23. $y^4 - 10y^2 + 9 = 0$ $\{3, -3, 1, -1\}$ 24. $u^5 - 13u^3 + 36u = 0$ $\{0, 3, -3, 2, -2\}$
25. $(z + 1)(z - 5) = 16$ $\{7, -3\}$ 26. $(2t - 5)(t - 1) = 2$ $\{\frac{1}{2}, 3\}$
27. $(x - 2)(x + 3) = 6$ $\{-4, 3\}$ 28. $(a - 5)(a - 2) = 28$ $\{9, -2\}$
29. $x(x - 6) = 4(x - 4)$ $\{2, 8\}$ 30. $3(m + 2) = m(m - 2)$ $\{-1, 6\}$