

EXTRA PRACTICE

LESSON 7.1

1. yes, cubic trinomial	2. yes, cubic binomial
3. not a polynomial	4. not a polynomial
5. yes, quartic binomial	6. yes, cubic trinomial
7. -28	8. 8
9. 14	10. -763
11. 272	12. 18
13. $3x^3 + 6x^2 - 3x + 16$	14. $5x^4 - 4x^3 - x^2 + 2x + 2$
15. $8.1x^3 - 9x^2 + 3.5x - 20$	16. $-x^4 + 5x^3 - 7x^2 + 6x - 15$
17. $3x^5 - 4x^4 - x^3 + 5x^2 + 7$	18. $4.2x^4 + 7.5x^3 - 1.9x^2 - 2x$
19. S-Shape	20. S-Shape
21. W-Shape	22. W-Shape

LESSON 7.2

1. max, 3.1	2. min, -4.3
3. max, 0; min, -1.1 & -0.1	4. max, 5.3; min, -3.3
5-10. use graphing calculator on my web site.	
11. rise on left fall on right	12. falls on left, rises on right
13. rises on left, rises on right	14. falls on left, falls on right
15. $3.8x^4 - 44.15x^3 + 156.86x^2 + 112.93x + 15,833.87$	

LESSON 7.3

1. $-10x^7 + 6x^6 - 4x^4 - 12x^3$	2. $12x^2 - 5x - 28$
3. $x^3 - 3x^2 - 23x + 30$	4. $2x^3 + 13x^2 + 8x - 48$
5. $8x^3 - 12x^2 + 6x - 1$	6. $2x^3 + 11x^2 - 25x - 28$
7. yes	8. yes
9. no	10. $x^2 + 3x + \frac{3}{2} + \frac{3}{4x-6}$
11. $x^2 - 2x - 8$	12. $x^2 + 5x - 7$
13. $3x^2 + 2x - 4$	14. $x + 12$
15. $x^2 - 2x - 8$	16. $x^2 + 4x + 16 + \frac{72}{x-4}$
17. $5x^2 - 2x + 3$	18. 37
19. -16	20. 12
21. -86	

LESSON 7.4

1. 0, -5, 2	2. -8, 0, 8
3. 0, 7 _D	4. 0, 4, 7
5. -2, 0, 1	6. 1, 7, -11
7. -2, 2 _D	8. -1, 1, 3
9. -1, -2, 5	10. -5, -1, 1
11. -1, 2, 3	12. 1 _D , 7
13. $\pm 3, \pm\sqrt{5}$	14. $\pm 1, \pm\sqrt{15}$
15. $\pm 1, \pm 2\sqrt{3}$	16. $\pm 4, \pm 3$
17. $\pm\sqrt{11}, \pm\sqrt{3}$	18. $\pm 1, \pm\sqrt{7}$
19. 0	20. $\pm 1.35, \pm 0.83$
21. -2.21, 0.54, 1.68	

LESSON 7.5

1. $\frac{2}{3}, 4$	2. $-\frac{1}{2}, 3$
3. $\frac{1}{2}, \frac{3}{5}, 2$	4. $-\frac{1}{2}, 2, 3$
5. $-\frac{3}{4}, 1, 2$	6. $\frac{1}{3}, \frac{4}{5}, 2$
7. $-1 \pm \sqrt{2}, 3$	8. $\pm\sqrt{5}, 3$
9. $2, \pm i\sqrt{7}$	10. $-1, 4, \pm i\sqrt{3}$
11. $\pm 2\sqrt{2}, \pm i\sqrt{3}$	12. $\pm 2, -\frac{5}{2} \pm \frac{\sqrt{5}}{2}$
13. $-0.87, 0.63$	14. $-0.16, 1.85$
15. $0.86, 2.07$	16. ± 1.41
17. $(x+1)(x-1)(x-2) = x^3 - 2x^2 - x + 2$	
18. $4(x-2)(x+3)(x-\frac{1}{2})(x+\frac{1}{2}) = 4x^4 + 4x^3 - 25x^2 - x + 6$	
19. $16(x-\frac{1}{2})(x-\frac{3}{2})(x+\frac{3}{2}) = 16x^4 - 16x^3 - 32x^2 + 36x - 9$	
20. $18(x-\frac{1}{2})\left(x-\frac{1}{3}\right)^2 = 18x^3 - 21x^2 + 8x - 1$	
21. $2(x-2)(x-3i)(x+3i) = 2x^3 - 4x^2 + 18x - 36$	
22. $4(x-2)(x-3)(x+i)(x-i) = 4x^4 - 20x^3 + 28x^2 - 20x + 24$	
31) $x^3 - 6x^2 + 3x + 10$	
32) $-2x^3 + 26x^2 + 70x - 98$	
33) $\frac{3}{2}x^4 - \frac{9}{2}x^2 - 6$	