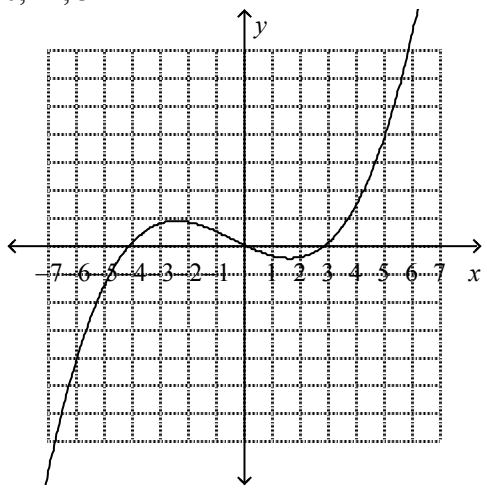
Chapter 6 Review Solutions

1. quintic binomial
2. quintic polynomial of 4 terms
3. $-4x^5 - 12x^4$; quintic binomial
4. $4w^3 + 2w^2 - 6w$; cubic trinomial
5. $T(x) = 0.4x^3 + 0.8x^2 + 0.1x$; 807.6 thousand trees
6. $5x(x + 3)(x - 3)$
7. $6x(x + 5)(x + 2)$
8. $f(x) = x^3 + 4x^2 - 11x - 30$
9. 0, –4, 3



10. $x^3 + 16x^2 + 10x - 9$
11. $x^2 - 3x + 7 - \frac{38}{x + 6}$ (or R. –38)
12. $-4x^2 - 18x - 73$, R –295
13. –202
14. $(x + 2)(x^2 - 2x + 4)$

$$x = -2, x = 1 \pm i\sqrt{3}$$

15. $(c - 8)(c^2 + 8c + 64)$

$x = 3, x = \frac{-3 \pm 3i\sqrt{3}}{2}$

16. 6, –6, 3, –3
17. 4, –4, 3, –3
18. $\pm 1, 3, 9$
19. $\pm\frac{1}{2}, 1, 2, \frac{5}{2}, 5, 10$
20. –3
21. –6, –2
22. $2 \pm 2i$, 3
23. $\frac{-3 \pm \sqrt{41}}{4}, -3$
24. $7 - \sqrt{1}, 7 + \sqrt{7}$
25. $1 - \sqrt{2}, 5 + \sqrt{7}$
26. 7 complex roots; 1, 3, 5, or 7 real roots; possible rational roots: ±1, ±5
27. 4 complex roots; 0, 2, or 4 real roots; possible rational roots: $\pm\frac{1}{2}, 1, \frac{3}{2}, 2, 3, 4, 6, 12$