36. (a) x-intercepts: 1, 4; y-intercept: −16
(b) x-intercepts: 1, 4; y-intercept: 128
(c) x-intercepts: −1, 1, 3; y-intercept: 3
37. (a) x-intercepts: 0 and −2; y-intercept: 0
(b) x-intercepts: 0 and −2; y-intercept: 0
38. (a) x-intercepts: 1, 4; y-intercept: 16
(b) x-intercepts: 0 and −2; y-intercept: 0
8. (a) Domain: (−∞, 0) ∪ (0, 2) ∪ (2, ∞), x-intercept: 3; no y-intercept; vertical asymptotes: x = 0 and x = 2; horizontal asymptote: y = 0
(b) x-intercepts: 0 and −2; y-intercept: 0
9. (a) Domain: (−∞, ∞), x-intercept: 3; y-intercept: −9; vertical asymptotes: horizontal asymptote: y = 1
(b) x-intercepts: 0 and −2; y-intercept: 0
10. (a) Domain: (−∞, −10) ∪ (−10, ∞), x-intercepts: 3, 2; no y-intercept; vertical asymptotes: horizontal asymptotes: y = −3, y = 0
(c) x-intercepts: 1, 2; y-intercept: 3
11. (a) Domain: (−∞, 0) ∪ (0, 2) ∪ (2, ∞); x-intercept: 3; no y-intercept; vertical asymptotes: x = 0 and x = 2; horizontal asymptote: y = 0
(b) x-intercepts: 0 and −2; y-intercept: 0
12. (a) Domain: (−∞, ∞); x-intercepts: 2, 3; no y-intercept; vertical asymptotes: horizontal asymptotes: y = 0
(b) x-intercepts: 0 and −2; y-intercept: 0
13. (a) Domain: (−∞, −3) ∪ (−3, 1) ∪ (1, ∞), x-intercepts: 3, 2; no y-intercept; vertical asymptotes: horizontal asymptotes: y = −3, y = 0
(c) x-intercepts: 1, 2; y-intercept: 3
14. (a) Domain: (−∞, ∞), x-intercepts: 2, 3; no y-intercept; vertical asymptotes: horizontal asymptotes: y = 0
(b) x-intercepts: 0 and −2; y-intercept: 0
15. (a) Domain: (−∞, −3) ∪ (−3, 1) ∪ (1, ∞), x-intercepts: 3, 2; no y-intercept; vertical asymptotes: horizontal asymptotes: y = −3, y = 0
(c) x-intercepts: 1, 2; y-intercept: 3
14. x-intercept: 1; y-intercept: -1; horizontal asymptote: y = 1; vertical asymptote: x = -1

15. x-intercept: 3; y-intercept: 3; horizontal asymptote: y = 1; vertical asymptote: x = 1

16. x- and y-intercepts: 0; horizontal asymptote: y = 2; vertical asymptote: x = -3

17. x-intercept: 1; y-intercept: -2; horizontal asymptote: y = 2; vertical asymptote: x = -1

18. x-intercept: -1; y-intercept: -1; horizontal asymptote: y = 3; vertical asymptote: x = 3

19. no x-intercept; y-intercept: 1; horizontal asymptote: y = 0; vertical asymptote: x = 2

20. no x-intercept; y-intercept: -1; horizontal asymptote: y = 0; vertical asymptote: x = 2

21. no x-intercept; y-intercept: 3; horizontal asymptote: y = 0; vertical asymptote: x = -1

22. no x-intercept; y-intercept: -3; horizontal asymptote: y = 0; vertical asymptote: x = -1

23. no x-intercept; y-intercept: 1; horizontal asymptote: y = 0; vertical asymptote: x = -5

24. no x-intercept; y-intercept: -1; horizontal asymptote: y = 0; vertical asymptote: x = -2

25. no x-intercept; y-intercept: -3; horizontal asymptote: y = 0; vertical asymptote: x = -1

26. x- and y-intercepts: 0; horizontal asymptote: y = 0; vertical asymptote: x = -1, x = 3

27. x- and y-intercepts: 0; horizontal asymptote: y = 0; vertical asymptotes: x = -2, x = 2

28. x-intercepts: 0; y-intercept: -1; horizontal asymptote: y = 0; vertical asymptote: x = 3, x = -1

29. (a) x-intercepts: 0; y-intercept: 0; horizontal asymptotes: x = 1, x = -3
(b) no x-intercepts; y-intercept: 1; horizontal asymptote: y = 4; no vertical asymptotes

30. (a) no x-intercepts; y-intercept: 0; horizontal asymptote: y = 4; vertical asymptotes: x = 1, x = 3
(b) x-intercept: 0; y-intercept: 0; horizontal asymptote: y = 3; vertical asymptotes: x = 1, x = -3

31. x-intercepts: -1, 1; y-intercept: 1; horizontal asymptote: y = 2; vertical asymptotes: x = 1/2, x = -1

32. x-intercepts: -1, 1; y-intercept: 1; horizontal asymptote: y = 2; vertical asymptotes: x = 1/2, x = -1