15. Answers may vary. Sample: The student may have used the Quadratic Formula incorrectly when finding the complex roots of the polynomial. If $\sqrt{3}$ is a root, then $-\sqrt{3}$ must be a root also, which would give the fifth-degree polynomial more than 5 solutions.

17. The error is that the equation $2x^2 - 10 = 0$ can be written as $2(x^2 - 5) = 0$, which has the irrational roots $-\sqrt{5}$ and $\sqrt{5}$.

20. Possible rational roots: $\pm\frac{1}{1}, \pm\frac{2}{1}, \pm\frac{3}{1}, \pm\frac{4}{1}, \pm\frac{6}{1}, \pm\frac{12}{1}$

21. Possible rational roots:
$\pm\frac{1}{1}, \pm\frac{3}{1}, \pm\frac{5}{1}, \pm\frac{9}{1}, \pm\frac{15}{1}, \pm\frac{45}{1}, \pm\frac{1}{2}, \pm\frac{3}{2}, \pm\frac{5}{2}, \pm\frac{9}{2}, \pm\frac{15}{2}, \pm\frac{45}{2}$

22. Possible rational roots: $\pm1, \pm2, \pm4, \pm8, \pm16, \pm\frac{1}{2}, \pm\frac{1}{4}$

23. Possible rational roots: $\pm1, \pm2, \pm3, \pm6, \pm\frac{1}{2}, \pm\frac{3}{2}, \pm\frac{1}{4}, \pm\frac{3}{4}, \pm\frac{1}{8}, \pm\frac{3}{8}$

25. $4, -2 + 3i, -2 - 3i$

26. $-9, \sqrt{7}, -\sqrt{7}$

27. $6i, -6i, \sqrt{2}, -\sqrt{2}$

30. $P(x) = x^2 - 2x + 37$

31. $P(x) = x^4 - 6x^3 + 79x^2 - 486x - 162$

35. 9 consoles

36. B, E

37. A