

3.8

Practice A

In Exercises 1–4, graph the function.

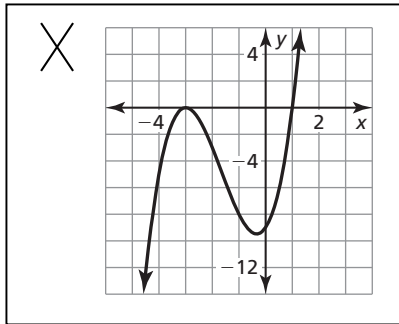
1. $f(x) = (x + 2)^2(x - 3)$

2. $g(x) = (x - 1)^2(x + 1)(x + 3)$

3. $h(x) = 2(x - 1)(x - 2)(x + 2)$

4. $f(x) = 3(x - 1)^2(x + 1)^2$

5. Describe and correct the error in using factors to graph $f(x) = (x - 1)^2(x + 3)$.



In Exercises 6–9, find all real zeros of the function.

6. $f(x) = x^3 + 3x^2 - 4x - 12$

7. $f(x) = x^3 + 7x^2 - x - 7$

8. $f(x) = x^3 - 5x^2 + x - 5$

9. $f(x) = 2x^3 - 3x^2 - 18x + 27$

In Exercises 10–13, graph the function. Identify the x-intercepts and the points where the local maximums and local minimums occur. Determine the intervals for which the function is increasing and decreasing.

10. $f(x) = 2x^3 - 5x^2 + 3$

11. $g(x) = -x^4 + 2x$

12. $h(x) = x^4 - 2x^2 + 3x$

13. $f(x) = x^4 - 4x^3 + 5x - 2$

In Exercises 14 and 15, estimate the coordinates of each turning point. State whether each corresponds to a local maximum or a local minimum. Then estimate the real zeros and find the least possible degree of the function.

