NAME _____ DATE _____

Practice

Student Edition
Pages 511–516

Rational Zero Theorem

List all possible rational zeros for each function.

1. $f(x) = x^3 - 5x^2 + 2x + 12$

2. $f(x) = x^4 - 8x^3 + 7x - 14$

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

4. $f(x) = 3x^5 - 7x^2 + x + 6$

Find all of the rational zeros for each function.

5. $f(x) = x^3 + 3x^2 - 6x - 8$

6. $f(x) = x^3 + 7x^2 + 7x - 15$

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

8. $f(x) = x^3 - x^2 - 8x + 12$

9. $f(x) = x^4 - 3x^3 - 11x^2 + 3x + 10$

10. $f(x) = x^4 - 4x^3 - 7x^2 + 34x - 24$

11. $f(x) = x^4 - 2x^3 - 4x^2 + 11x - 6$

12. $f(x) = x^3 + 4x^2 - 2x + 15$

Find all of the zeros of each function.

13. $f(x) = 3x^3 - 4x^2 - 17x + 6$

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

15. $f(x) = 18x^3 + 9x^2 - 2x - 1$

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

17. $f(x) = 2x^4 + 7x^3 - 2x^2 - 19x - 12$

18. $f(x) = x^4 - 4x^3 + x^2 + 16x - 20$