## Problem Set

Use the reverse tabular method to solve these division problems.

1. $\frac{2x^3+x^2-16x+15}{2x-3}$

2. $\frac{3x^5+12x^4+11x^3+2x^2-4x-2}{3x^2-1}$

3. $\frac{x^3-4x^2+7x-28}{x^2+7}$

4. $\frac{x^4-2x^3-29x-12}{x^3+2x^2+8x+3}$

5. $\frac{6x^5+4x^4-6x^3+14x^2-8}{6x+4}$

6. $\frac{x^3-8}{x-2}$

7. $\frac{x^3+2x^2+2x+1}{x+1}$

8. $\frac{x^4+2x^3+2x^2+2x+1}{x+1}$

9. Use the results of Problems 7 and 8 to predict the quotient of $\frac{x^5+2x^4+2x^3+2x^2+2x+1}{x+1}$.
   Explain your prediction. Then check your prediction using the reverse tabular method.

10. Use the results of Problems 7–9 above to predict the quotient of $\frac{x^4-2x^3+2x^2-2x+1}{x-1}$. Explain your prediction. Then check your prediction using the reverse tabular method.

11. Make and test a conjecture about the quotient of $\frac{x^6+x^5+2x^4+2x^3+2x^2+x+1}{x^2+1}$. Explain your reasoning.