

Name _____ Date _____

Divide the following using both methods of Polynomial Division and Synthetic Substitution:

| Polynomial Division | Synthetic Substitution |
|-----------------------------------|--------------------------------|
| 1. $(x^3 - 7x - 6) \div (x - 2)$ | $(x^3 - 7x - 6) \div (x - 2)$ |
| 2. $(4x^2 + 5x + 8) \div (x + 1)$ | $(4x^2 + 5x + 8) \div (x + 1)$ |
| 3. $(x^3 - 14x + 8) \div (x + 4)$ | $(x^3 - 14x + 8) \div (x + 4)$ |
| 4. $(x^2 + 10) \div (x + 4)$ | $(x^2 + 10) \div (x + 4)$ |

Divide the following using the *method that you prefer!* (*Polynomial Division or Synthetic Substitution*)

| | |
|--|---|
| 5. $(10x^4 + 5x^3 + 4x^2 - 9) \div (x + 1)$ | 6. $(x^3 + 8x^2 - 3x + 16) \div (x + 5)$ |
| 7. $(2x^4 - 6x^3 + x^2 - 3x - 3) \div (x - 3)$ | 8. $(x^4 - 6x^3 - 40x + 33) \div (x - 7)$ |
| 9. $(4x^4 + 5x^3 + 2x^2 - 1) \div (x + 1)$ | 10. $(-10x^5 + 3x - 7) \div (x - 1)$ |