Algebra 2 Name _____

Lesson 3.4 Worksheet

Block _____ Date _____

Determine whether the given binomial is a factor of the polynomial by using synthetic division.

1) $(x^5 - 58x^3 + 61x^2 + 5x + 63) \div (x - 7)$

2) $(a^3 + 2a^2 - 77a - 31) \div (a - 8)$

Factor each polynomial.

3) $x^3 - 2x^2 - x + 2 = 0$

4) $3x^3 - 6x^2 - 2x + 4 = 0$

5) $3x^3 - 14x^2 + 8x = 0$

6) $5x^3 + 8x^2 - 4x = 0$

7) $5x^4 - 9x^2 - 2 = 0$

8) $3x^4 - 10x^2 + 7 = 0$