

Name: _____

Date: _____

Algebra 2 CP Worksheet Section 6.5 Part 2 Factor Theorem

1. If $P(x) = x^3 + 3x^2 - 6x - 8$ and $P(2) = 0$, write $P(x)$ in factored form. Then find the zeros.

2. If $P(x) = x^3 + 5x^2 - 4x - 20$ and $P(-5) = 0$, write $P(x)$ in factored form.

3. If $P(x) = x^5 + x^4 - 5x^3 - 5x^2 + 4x + 4$ and $P(-1) = 0$, write $P(x)$ in factored form. Then find the zeros.

4. Given the polynomial $x^3 - x^2 - 14x + 24$ and the factor $x + 4$, find the remaining factors and write the polynomial in factored form.

5. Given the polynomial $6x^3 + 5x^2 - 3x - 2$ and the factor $x + 1$, find the remaining factors and write the polynomial in factored form.

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6. Given the polynomial $x^5 - 2x^4 + 4x^3 - 8x^2 - 5x + 10$ and the factor $x - 2$, find the remaining factors and write the polynomial in factored form. Then find the zeros.