

Name _____
Mr. Schlansky

Date _____
Algebra II

Finding k in a Polynomial Equation

1. Consider the polynomial $p(x) = x^3 + kx^2 + x + 6$. Find a value of k so that $x + 1$ is a factor of P . Find all the zeros of P .

2. Consider the polynomial $p(x) = x^3 + kx - 30$. Find a value of k so that $x + 3$ is a factor of P . Find all the zeros of P .

3. Given $p(x) = 6x^3 + 31x^2 + kx - 12$, and $p(-4) = 0$, algebraically determine all the zeros of $p(x)$.

4. Given $z(x) = 6x^3 + bx^2 - 52x + 15$, $z(2) = 35$, and $z(-5) = 0$, algebraically determine all the zeros of $z(x)$.

5. Given $p(x) = x^3 + 5x^2 + kx - 24$, and $x + 3$ is a factor, algebraically determine all the zeros of $p(x)$.