

Name _____
Class block _____
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Honors Pre-Calculus Quiz
Sections 2.5–2.6
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4. Construct a 4th degree polynomial $P(x)$ with integer coefficients such that $P(0) = 0$ and $P(i) = 0$. Express your answer in the form $P(x) = ax^4 + bx^3 + cx^2 + dx + e$, where a, b, c, d , and e are integers.

5. The following information is given about polynomial $Q(x)$:

- $Q(x)$ has degree 4.
- $Q(x)$ has real coefficients.
- The leading term of $Q(x)$ is $7x^4$.
- The constant term of $Q(x)$ is 5.
- $Q(2 + i) = 0$.
- $Q(1) = 0$.

Make as many true statements as you can about the zeroes of $Q(x)$.

Consider various types of zeroes including rational, real, and complex.

You may be able to tell how many zeroes there are, and/or identify specific zeroes.