1. Consider the surjective map $\mathbb{Z}[x] \to \mathbb{Z}$ that sends x to 2. What is the kernel?

2. What does the first isomorphism theorem tell you about the situation from problem 1? (It will be an isomorphism between $\mathbb{Z}$ and a quotient ring)

3. What does the Correspondence Theorem tell you about the ideals in the isomorphic rings from problem 2?

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