A generalization of the Nagell-Lutz theorem
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The classical Nagell-Lutz theorem states that a rational torsion point on an elliptic curve in Weierstrass form (with integral coefficients) has integral coordinates. We will discuss a generalization of this theorem that arose from studying a certain question coming from Diophantine approximation. In particular, our method seemingly gives a new proof of the classical Nagell-Lutz theorem that notably does not appear to explicitly use the group structure of the elliptic curve (e.g., formal groups, division polynomials, etc.). This is joint work with Umberto Zannier.