Problem 6. «An elliptic curve»

Bob develops a new cryptosystem based on elliptic curves. An elliptic curve is the set of points (x, y) satisfying the equation $y^2 = x^3 + ax + b$ for some fixed real numbers a, b. For the system Bob chooses the curve $y^2 = x^3 + 56x + 6$ and needs to find all integer points of this curve, i. e. points (x, y), where x and y are both integer numbers. Help Bob to do this!