HOMEWORK XI
MATH-UA 0248-001 THEORY OF NUMBERS
due on Dec, 8, 2017

1. Determine the infinite continued fraction representation of $\sqrt{26}$.

2. Establish that if x_0, y_0 is a solution of the equation $x^2 - dy^2 = -1$, then $x = 2x_0^2 + 1, y = 2x_0y_0$ satisfies $x^2 - dy^2 = 1$.

3. If d is divisible by a prime $p \equiv 3 \pmod 4$, show that the equation $x^2 - dy^2 = -1$ has no solution.