Diophantine Equations

References

Pythagorean Triples

Pell’s Equation

Descent
A. Knapp, Elliptic Curves, Princeton Univ. Press, 1992. (Descent is linked to elliptic curves, and the examples $x^4 \pm y^4 = z^2$ and Fermat’s Big Problem are treated.)
N. V. Nevesenko, http://neves.suncloud.ru/task/fermat18.htm. (The first few solutions to Fermat’s Big Problem are listed here: the sides of the triangle are $X$, $Y$, and $Z$, with $X + Y = a^2$ and $Z = c^2$.)

Mordell’s Equation
S. Alaca and K. S. Williams, Introductory Algebraic Number Theory, Cambridge Univ. Press, 2003. (Chapter 14)

The abc-conjecture