$$x^2 + y^2 + z^2 = 3xyz,$$
$$(1, F_{2n-1}, F_{2n+1}),$$
$$(2, P_{2n-1}, P_{2n+1}),$$
$$m_n = \frac{1}{3}e^{C\sqrt{n}+o(1)} \quad \text{with } C = 2.3523414972\ldots.$$
$$x^2 + y^2 + z^2 = 3xyz + 4/9$$
$$f(x) + f(y) = f(z)$$
$$L_n = \sqrt{9 - \frac{4}{m_n{}^2}}.$$
$$f(x, y) = ax^2 + bxy + cy^2$$
$$D = b^2 - 4ac$$
$$\frac{\sqrt{D}}{3}$$
$$px^2 + (3p - 2a)xy + (b - 3a)y^2$$
$$\equiv \pm r \pmod{p}, bp - a^2 = 1,$$