

# Week of October 3, 2016

Find all pairs of real numbers  $(x, y)$  satisfying the system of equations

$$\frac{1}{x} + \frac{1}{2y} = (x^2 + 3y^2)(3x^2 + y^2)$$

$$\frac{1}{x} - \frac{1}{2y} = 2(y^4 - x^4)$$

(Putnam problem 2001-B2)