

## MATH 224

*Selected Hints and Answers for Assignment 6*

If a point  $(x, y)$ , with  $x \neq 0$ , lies on the line  $y = mx$ , then show that

$$g(x, y) = \frac{xy}{2x^2 + 3y^2} = \frac{m}{2 + 3m^2}$$

Then show that finding a point where  $g(x, y) = Q$  for some given number  $Q$  is equivalent to solving a quadratic equation in  $m$ .