

15.2 Constrained Optimization: Lagrange Multipliers

Name:

Date:

P 5. Find the maximum and minimum values, if any such values exist, of

$$f(x, y) = 3x - 2y$$

subject to the constraint $x^2 + 2y^2 = 44$.

P 6. Find the maximum and minimum values, if any such values exist, of

$$f(x, y) = 2xy$$

subject to the constraint $5x + 4y = 100$.

P 18. Decide whether each point appears to be a maximum, minimum, or neither for the function constrained by the loop in the figure below.

- (a) P
- (b) Q
- (c) R
- (d) S

