

f increasing



The diagram illustrates a mathematical concept of tangency. A blue curve, representing the level set $f(x_1, x_2) = c^*$, is convex. A green straight line, representing the constraint $g(x_1, x_2) = 0$, is tangent to the blue curve at a single point. This point of tangency is marked with a black dot. An arrow points from the text ' f increasing' towards the upper right, indicating the direction of increasing values of the function f . Another arrow points from the text 'this (x_1, x_2) achieves tangency' to the point of tangency, highlighting the optimal solution where the objective function is maximized subject to the constraint.

$$f(x_1, x_2) = c^*$$

this (x_1, x_2) achieves tangency

$$g(x_1, x_2) = 0$$