

### Quiz:

1. Find the intervals of convexity and concavity of the function:

$$f(x) = 2x^3 - 18x^2$$

2. Calculate the gradient for the function  $f(x, y) = x^3 - 2x^2y + 4y^2$  at  $(1, 1)$
3. Use Newton's method to find the solution for function (accurate to six decimal places)

$$f(x) = x^3 - x^2 - 15x + 1, \quad x_0 = 4.5$$

