38(4) Find the total area (geometric area, not signed area) over \([-2, 2]\) between \(y = 3x^2 - 3\) and the x-axis. 2-digits check=3

40(4) Find the total area (geometric area, not signed area) over \([-2, 2]\) between \(y = x^3 - 4x\) and the x-axis. Positive digit

52(1) Find the integral solution for: \(\frac{dy}{dx} = \sqrt{1 + x^2}\), \(y(1) = -2\). See Lecture 19 for an example. 12 symbols, checksum=6

54(1) Find the integral solution for: \(\frac{dv}{dt} = g(t), \ v(t_0) = v_0\). See Lecture 19 for an example. 13 symbols, checksum=0