

Show all work and circle/box your final answer. All answers must be simplified unless stated otherwise.

(1) Find the area between the following two curves:

(a) $y = 0$ and $y = 3(x^3 - x)$ from $x = -1$ to $x = 1$

(b) $y = x^2$ and $y = x^3$

(c) $y = e^{-x}$ and $y = e^x$ from $x = -1$ to $x = 2$

(2) Set up but do not evaluate the integral(s) needed to find the area between the curves and the given x -values:

(a) $y = \frac{x-1}{4}$ and $y = \frac{1}{x-1}$ from $x = 2$ to $x = 4$

(b) $y = 2x^2 + 10$ and $y = 4x + 16$ from $x = -2$ and $x = 5$