Practice questions

Show your working. Try these without looking at the answers.

1. Evaluate the integral.

$$\int_0^2 3x^2\,dx$$

2. Find the area under the curve and above the x-axis.

$$y = x^2, \quad x = 0, \quad x = 3$$

3. Find the area between the curves.

$$y = 2x, \quad y = x^2, \quad 0 \leq x \leq 2$$

4. Use the trapezium rule with two strips to estimate the integral from 0 to 2.

$$y = x^2, \quad x = 0, 1, 2$$