

# Computational Mathematics/Information Technology

## Solutions to Worksheet 1

### Use of Derive

1. For task 7 write down the values of  $x$  where the curve cuts the  $x$  axis:

$$x_1 = -6, \quad x_2 = -4,$$

$$x_3 = -2, \quad x_4 = 1,$$

$$x_5 = 2.$$

2. For task 12 write down the expression for the derivative of  $f(x)$ .

$$f'(x) = 3x^2 + 10x + 4$$

and correct to three decimal places the value of  $x$  at the stationary points;

$$x = -0.465 \quad \text{and} \quad x = -2.869$$

3. From task 15 complete, correct to three decimal places

$$\int_{-5}^6 x^3 + 5x^2 + 4x - 9 \, dx = 659.083$$