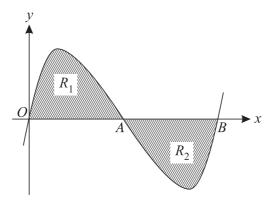
7



The diagram shows the curve y = x(x - 1)(x - 2), which crosses the x-axis at the points O(0, 0), A(1, 0) and B(2, 0).

- (i) The tangents to the curve at the points A and B meet at the point C. Find the x-coordinate of C.
- (ii) Show by integration that the area of the shaded region  $R_1$  is the same as the area of the shaded region  $R_2$ . [4]