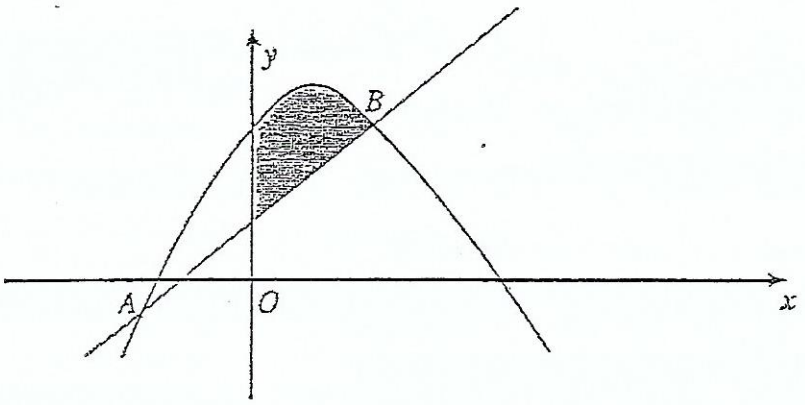
113.



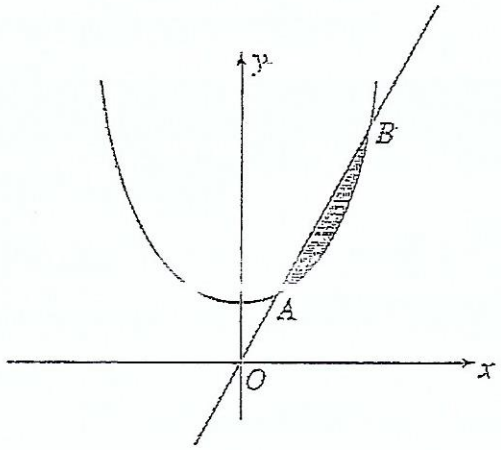
The diagram shows the curve $y = 7 + 2x - x^2$ and the line $y = x + 1$ intersecting at the points A and B.

(a) Find the coordinates of B. [4]

(b) Evaluate the area of the shaded region. [8]

June 2006

114. (b)



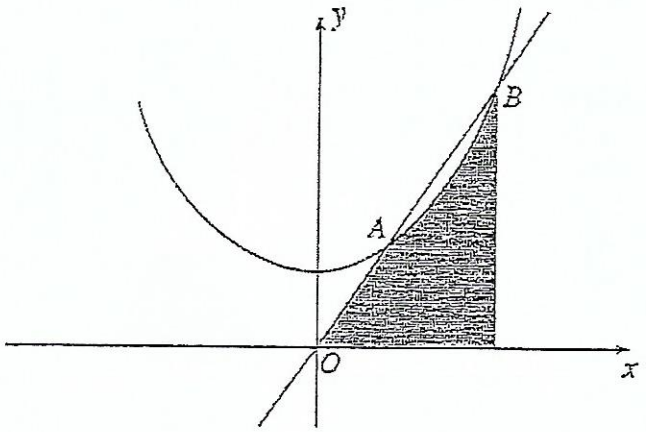
The diagram shows a sketch of the curve $y = x^2 + 3$ and the line $y = 4x$. The line and the curve intersect at the points A and B.

(i) Showing your working, find the coordinates of A and B.

(ii) Evaluate the area of the shaded region. [10]

Jan 2007

115. (b)



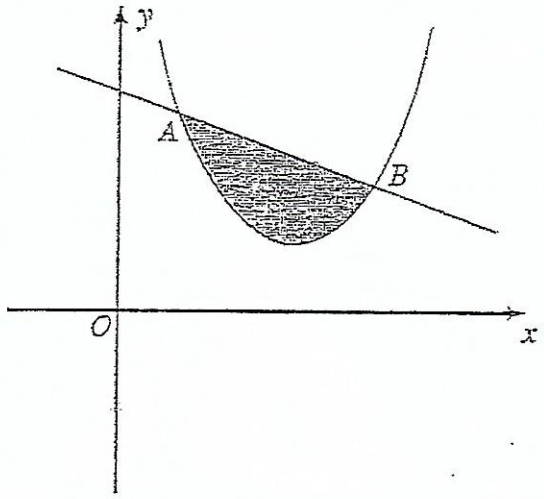
The diagram shows a sketch of the curve $y = x^2 + 2$ and the line $y = 3x$.
The line and the curve intersect at the points A and B.

(i) Find the coordinates of the points A and B. [4]

(ii) Evaluate the area of the shaded region. [7]

June 2007

116. (b)



The diagram shows a sketch of the curve $y = x^2 - 6x + 11$ and the line $y = -x + 7$. The curve and the line intersect at the points A and B.

(i) Showing your working, find the coordinates of A and B.

(ii) Find the area of the shaded region. [11]

Jan 2008