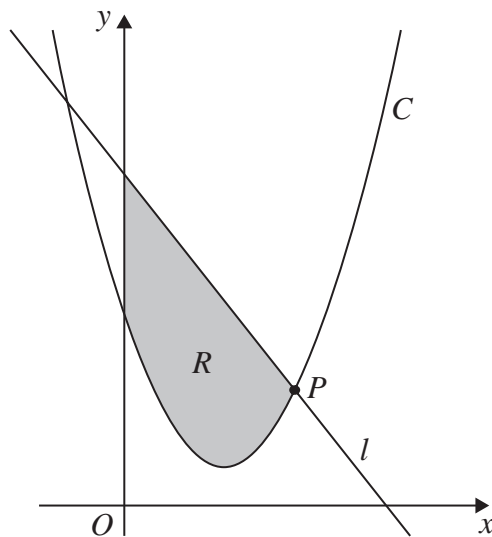**10.**

Figure 3

**In this question you must show all stages of your working.
Solutions relying entirely on calculator technology are not acceptable.**

Figure 3 shows a sketch of the curve C with equation

$$y = 2x^2 - 7x + 8$$

and a sketch of the line l with equation

$$y = -3x + 14$$

The line l intersects the curve C at the point P as shown in Figure 3.

(a) Find the x coordinate of P

(3)

The region R, shown shaded in Figure 3, is bounded by C, l and the y-axis.

(b) Use algebraic integration to find the area of R

(4)