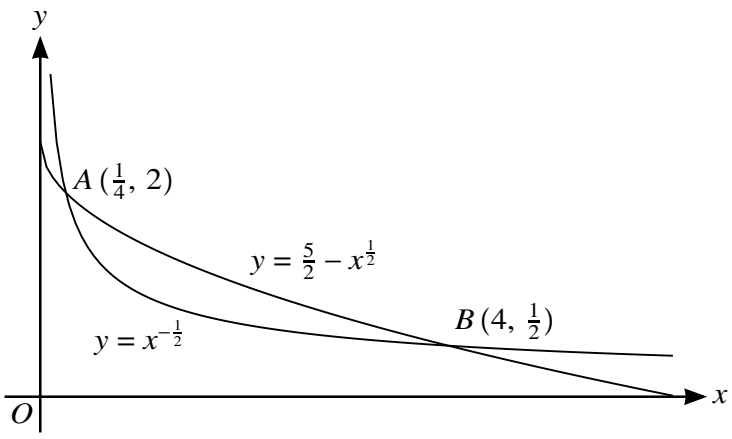
8



The diagram shows the curves with equations $y = x^{-\frac{1}{2}}$ and $y = \frac{5}{2} - x^{\frac{1}{2}}$. The curves intersect at the points $A\left(\frac{1}{4}, 2\right)$ and $B\left(4, \frac{1}{2}\right)$.

(a) Find the area of the region between the two curves. [6]

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(b) The normal to the curve $y = x^{-\frac{1}{2}}$ at the point (1, 1) intersects the y-axis at the point $(0, p)$.

Find the value of p. [4]