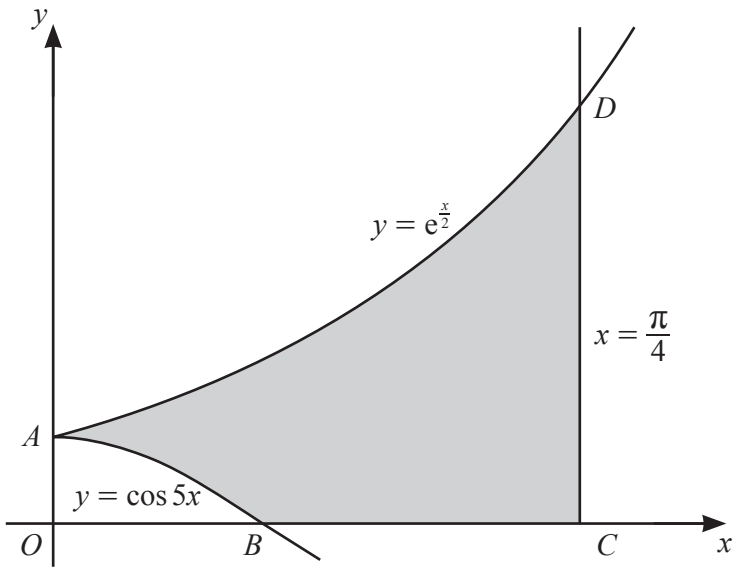
11



The diagram shows part of the curves $y = e^{\frac{x}{2}}$ and $y = \cos 5x$ and part of the line $x = \frac{\pi}{4}$. The curves intersect at A. The curve $y = \cos 5x$ cuts the x-axis at B. The line $x = \frac{\pi}{4}$ cuts the x-axis at C and the curve $y = e^{\frac{x}{2}}$ at D. Find the exact area of the shaded region, $ABCD$. [7]

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