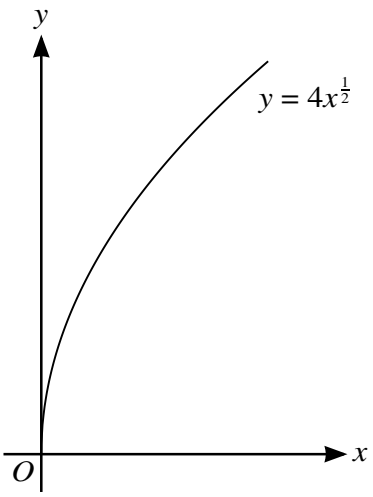
**10**




The diagram shows the curve with equation $y = 4x^{\frac{1}{2}}$.

**(i)** The straight line with equation $y = x + 3$ intersects the curve at points $A$ and $B$. Find the length of $AB$. [6]

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**(ii)** The tangent to the curve at a point $T$ is parallel to $AB$. Find the coordinates of $T$. [3]

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**(iii)** Find the coordinates of the point of intersection of the normal to the curve at $T$ with the line $AB$. [3]

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