# AREA BOUNDED BY THE Y-AXIS

**2** Calculate the area of the region bounded by the curve $y = \sqrt{x}$, the $y$-axis and the line $y = 3$.

**3** The area of the region bounded by the curve $y = \sqrt[3]{x}$ and the line $y = 2$ is given by:

**A** $\int_0^2 y\,dy$ **B** $\int_0^8 y\,dy$ **C** $\int_0^2 y^3\,dy$ **D** $\int_0^8 y^3\,dy$

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**4** Calculate the area of the region bounded by the curve $y = \frac{1}{x^2}$, the $y$-axis and the lines $y = 1$ and $y = 9$.

**5** Calculate the area of the region bounded by the curve $y = x^2$ and the line $y = 4$.

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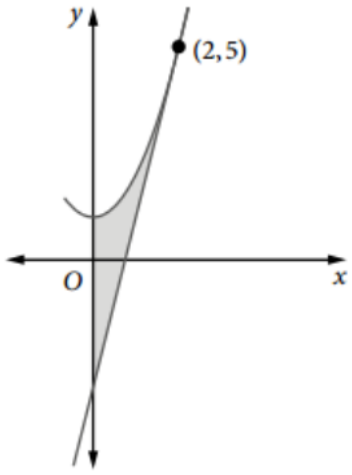
**6** **(a)** Show that the equation of the tangent to the parabola $y = x^2 + 1$ at the point where $x = 2$ is $y = 4x - 3$.

**(b)** Hence find the area enclosed by the parabola, the tangent and the $y$-axis.



# AREA BOUNDED BY THE Y-AXIS

**8** **(a)** Calculate the area of the region bounded by the parabolas $y = x^2$ and $y = 4 - x^2$.

**(b)** Calculate the area of the region bounded by the $x$-axis and the parabolas $y = x^2$ and $y = 4 - x^2$.