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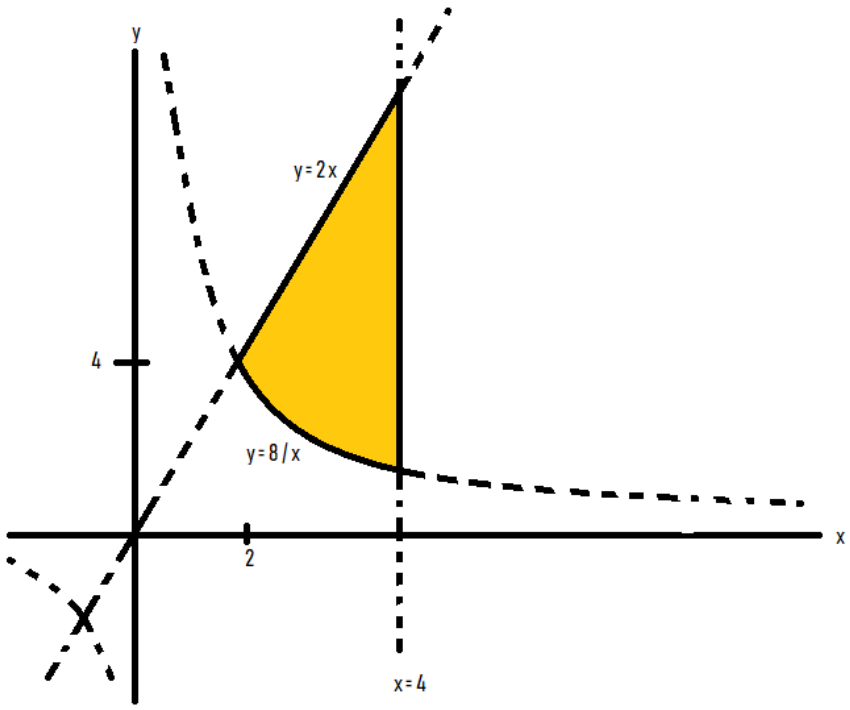

$y = 2x$ is a straight line which passes through the origin.

$y = \dfrac{8}{x}$ is a curve with both vertical and horizontal asymptote.

$x = 4$ is a straight line.

The straight line $y = 2x$ intersects the curve $y = \dfrac{8}{x}$ on $x = 2$ and $x = -2$

Remember that, Area bounded by the curves is given by,

Area $= \displaystyle\int_a^b f(x) - g(x)\, dx$, where $f(x)$ **is the upper curve** and $g(x)$ **is the lower curve** and $x \in [a, b]$.

In this case, the upper function is $f(x) = 2x$ and lower function is $g(x) = \dfrac{8}{x}$ and $x \in [2, 4]$.

$$\begin{aligned}
\text{Area} &= \int_a^b f(x) - g(x)\, dx \\
&= \int_2^4 2x - \frac{8}{x}\, dx \\
&= \left[x^2 - 8\ln(x)\right]_2^4 \\
&= \left[x^2\right]_2^4 - \left[8\ln(x)\right]_2^4 \\
&= (16 - 4) - 8(\ln(4) - \ln(2)) \\
&= 12 - 8\ln(2) \text{ square units}
\end{aligned}$$