

Let R be the region in the xy -plane bounded between the lines $y = x$, $y = 2x$, and $x = 2$.

- (a) Sketch the region. Be sure to label the axes, the curves, the region R , and any points of intersection.
- (b) Set-up a definite integral (or a sum of definite integrals, if needed) using integration along the x -axis that computes the area of the region R .
- (c) Set-up a definite integral (or a sum of definite integrals, if needed) using integration along the y -axis that computes the area of the region R .
- (d) Evaluate one of your integrals (from parts (b) or (c)) to find the exact area of the region R .