6. [5 points]
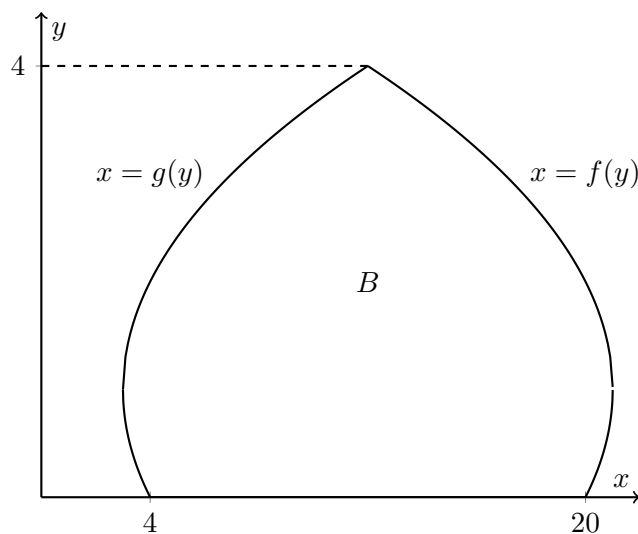
Mike also plans to make a Bundt cake. He designs the cake using the region B, which is the region in the first quadrant bounded by the curves

$$f(y) = 21 - (y-1)^2,$$
$$g(y) = 3 + (y-1)^2, \text{ and}$$
$$y = 0,$$

as shown below.

Write an expression involving one or more integrals for the volume of the cake generated by revolving the region B about the y-axis. **Do not** evaluate any integrals in your expression. Your final answer should not involve the letters f or g.

Answer: _____