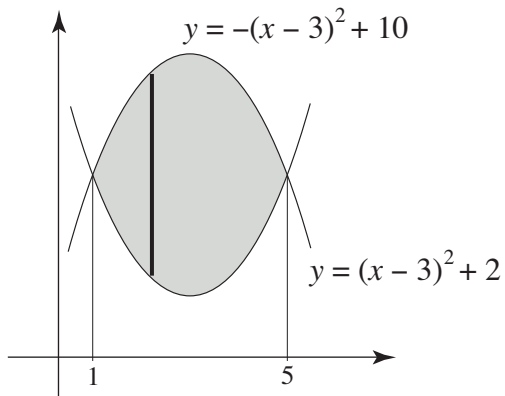


Quiz**Name**

1. Consider the two parabolas $y = (x - 3)^2 + 2$ and $y = -(x - 3)^2 + 10$ of the figure below.



Set up two definite integrals *involving functions of x* . *Neither integral is to be evaluated.* Leave the algebraic expressions “as is” i.e. no simplifying.

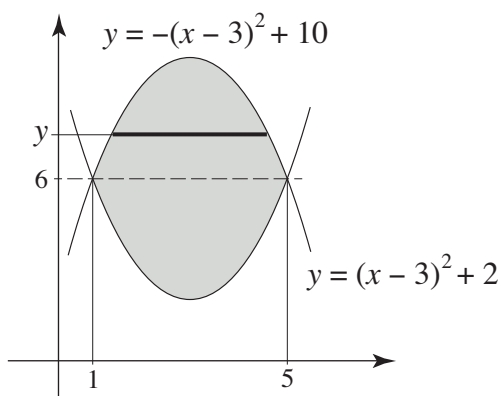
- 1a.** A definite integral that represents the volume obtained by revolving the shaded region around the x -axis.

2a. \int

- 1b.** A definite integral that represents the volume obtained by revolving the shaded region around the y -axis.

2b. \int

2. Again consider the two parabolas $y = (x - 3)^2 + 2$ and $y = -(x - 3)^2 + 10$ of Figure 3.



Focus on the horizontal strip with coordinate y , where $6 \leq y \leq 10$.

2a. Determine the x coordinates of the left and right endpoints of this strip (in terms of y).

left endpoint: $x =$	right endpoint: $x =$
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2b. Let the strip be dy thick and write an expression for the volume obtained by revolving the strip one revolution around the x -axis.

Answer:
