

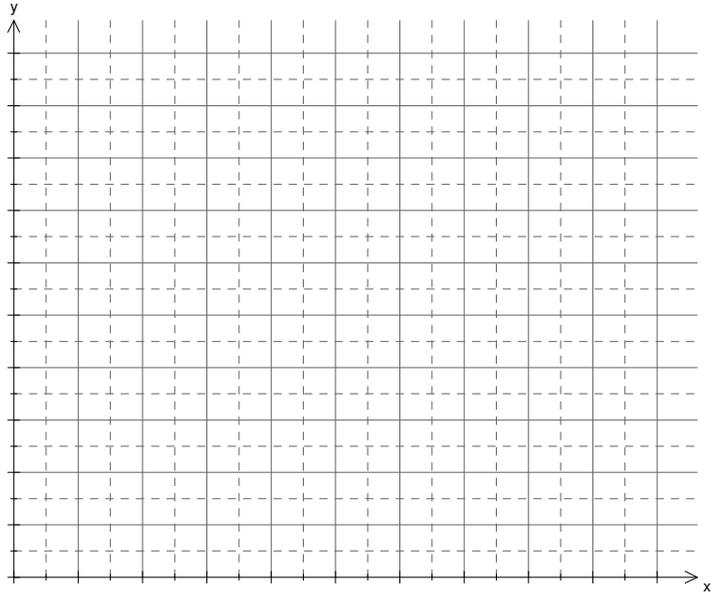
COMMUNICATING WHAT WE KNOW ABOUT THE AREA OF A REGION BETWEEN TWO CURVES

VERBAL SITUATION We want to find the area of the region enclosed by the two curves represented by the equations $x = y^2$ and $y = x - 2$.

NUMERICAL Set up a table of values for appropriate points you will use to graph the two curves, without using your calculator and including any points of intersection of the two curves as well as any intercepts with the axes.

<i>x</i> -coordinate	<i>y</i> -coordinate

GRAPH Sketch an accurate graph of the situation described at the left. Plot and label the two curves as well as all the points you chose in your table of values. Lightly shade the enclosed area.



SYMBOLIC

- (a) Using vertical representative rectangles, write the definite integral(s) that could be used to find the desired area.
- (b) Using horizontal representative rectangles, write the definite integral(s) that could be used to find the desired area.

ANALYSIS

- Evaluate the area using your integral expression from (a) to the left.
1. Evaluate the area using your integral expression from (b) to the left.
 2. Explain which method you prefer and why.
 3. In general, give two factors to consider in finding the easiest way to evaluate the area between two curves.