

Written HW13 – MATH 2501 Fall 2021

**Due by 8 October for timely completion credit**

Full credit on these problems require a fully symbolic derivation of the solutions.

1. Two positive numbers  $x$  and  $y$  sum to 8. For which values of  $x$  and  $y$  is the quantity  $xy^2$  maximized?
2. A rectangle is inscribed with its base on the  $x$ -axis and its upper corners on the parabola  $y = 9 - x^2$ . What are the dimensions of the rectangle with greatest area?