

- [illegible]

A Cartesian coordinate system with a horizontal x-axis and a vertical y-axis. The origin is labeled  $O$ . A parabola, representing  $y = x^2$ , opens upwards with its vertex at the origin. A straight line, representing  $y = 2x$ , passes through the origin with a positive slope. The line is tangent to the parabola at the point  $(1, 1)$ . The region between the parabola and the line, from  $x = 0$  to  $x = 1$ , is shaded in light gray.

Find the area of the shaded region.

[illegible]