

**Student handout** Find the area of the part of the plane  $x + y + 1$  in the first octant, as shown in the figure below.

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### Instructor's guide

- Students may have difficulty representing the sides of the triangle as vectors. Encouraging them to represent the corners as vectors may help.
- Students may have difficulty visualizing the triangle as half of a parallelogram – and may forget the factor of  $\frac{1}{2}$  even once they recognize the need for the cross product.
- Some students will solve this problem geometrically, without vectors.