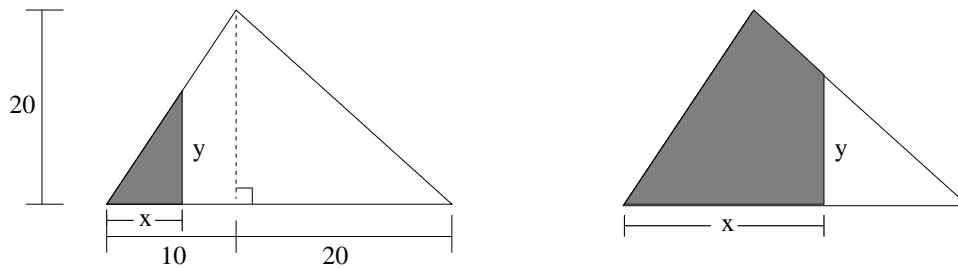


Pizzeria Buonapetito makes a triangular-shaped pizza with base width of 30 inches and height 20 inches as shown. Alice wants only a portion of the pizza and does so by making a vertical cut through the pizza and taking the shaded portion. Letting x be the bottom length of Alice's portion and y be the length of the cut as shown, answer the following questions:



shaded region is the piece Alice takes

1. Find a formula for y as a multipart function of x . Specify the domain and range of your function. Sketch the graph of this function.
 2. Find a formula for the area of Alice's portion as a multipart function of x . Specify the domain and range of your function. Sketch the graph of this function. Include any vertices.
 3. If Alice wants 55% of the pie, where should she make the cut?
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