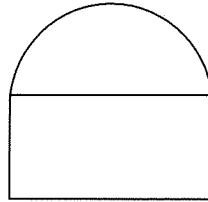1. On a box of pizza dough mix, the directions say: Spread dough to the edges of a pizza pan or only a 10" by 14" rectangle on cookie sheet." How big a circular pizza could you make with this dough, assuming it is spread the same thickness as for the rectangular pizza?

2. An architect is planning to include a rectangular window topped by a semicircle in his plans for a new house. To allow for enough light, the window should have an area of 120 square feet. The architect wants the rectangular portion of the window to be 2 feet wider than it is tall. What are the dimensions of the window?
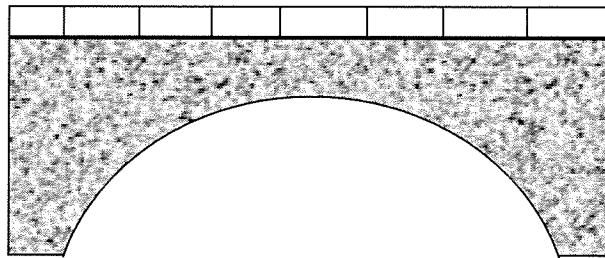

3. A high diver jumps from the 10-meter spring board. His height in meters above the water t seconds after leaving the board is given by:
$$h(t) = -4.9t^2 + 8t + 10$$

How long is it before the diver passes the board on the way down?

4. The figure shows a bridge arching over the Blue Ridge Scenic Parkway. To accommodate the road beneath, the arch is 100 feet wide at its base, 20 feet high in the center, and parabolic in shape. If the origin is placed at the left end of the arch, what would the equation of the parabola be?

5. Refer to the diagram at right and find the value of x for which triangle ABC has a right angle at C.