BECA / IB Math 03-Quadratic functions Name:
2 February 2022

4.6 Classwork: Writing algebra models for applications

Make a diagram of each situation, then use algebra and simple labels to represent each situation. (including defining the variables)

1. Of three sides of a triangle, one is twice as long as the shortest side and the third side is 150% of the short leg in length.

2. A rectangular field is twice as long as it is wide. We are interested in its total area.

3. The fence around a square field is 100 meters long. One side of the field runs along a river, so there is no fence there. We are interested in the area of the field.

4. A rectangular field has a minimum area and must be fenced around its perimeter. An expensive feeding pipe must cross the field, dividing it into two equal sides. The pipe costs twice as much per meter as the fence. We are interested in (minimizing) the total cost.

5. A cardboard box is made from a sheet 50 by 80 centimeters in dimensions. Corners are cut out so the sides can be folded up. We are interested in the total volume.