

Problem 1.

Simplify $\sqrt{9 - 6\sqrt{2}} + \sqrt{9 + 6\sqrt{2}}$. (Source: AMC 10)

Problem 2.

Find the area of a square in the coordinate plane that has vertices whose y -coordinates are 0, 1, 4, and 5.
(Source: AMC 10)

Problem 3.

The vertices of an equilateral triangle lie on the hyperbola $xy = 1$, and a vertex of this hyperbola is the centroid of the triangle. Find the area of the triangle. (Source: AMC 10)