

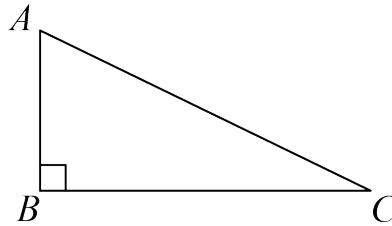


Problem of the Week

Problem E

A Square in a Triangle

In $\triangle ABC$, there is a right angle at B and the length of BC is twice the length of AB . In other words, $BC = 2AB$.



Square $DEFB$ is drawn inside $\triangle ABC$ so that vertex D is somewhere on AB between A and B , vertex E is somewhere on AC between A and C , vertex F is somewhere on BC between B and C , and the final vertex is at B .

Square $DEFB$ is called an *inscribed* square. Determine the ratio of the area of the inscribed square $DEFB$ to the area of $\triangle ABC$.

