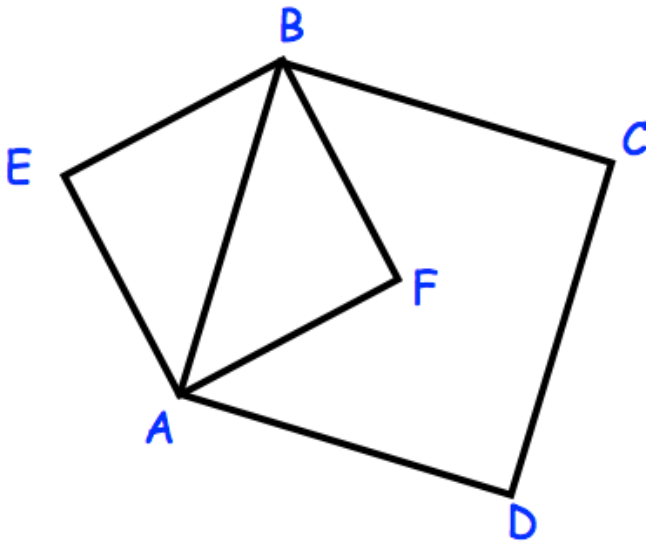


August 6<sup>th</sup>

ABCD and EAFB are squares.  
Find the ratio of the perimeter of the smaller square to the larger square.



If ABCD has side length 1, its perimeter = 4

Pythagoras in triangle ACD gives  $AC = \sqrt{2}$

Therefore  $AF = \frac{\sqrt{2}}{2}$

AFBE has perimeter  $\frac{\sqrt{2}}{2} \times 4 = 2\sqrt{2}$

Hence ratio of perimeters is  $2\sqrt{2} : 4$

**$= \sqrt{2} : 2$**