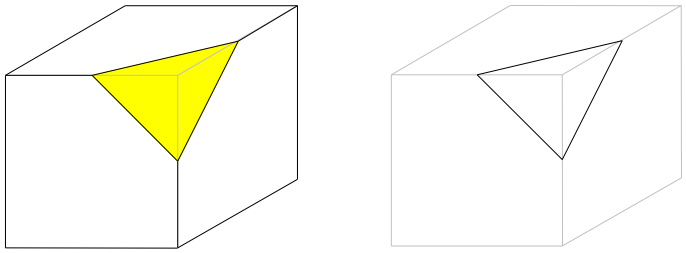
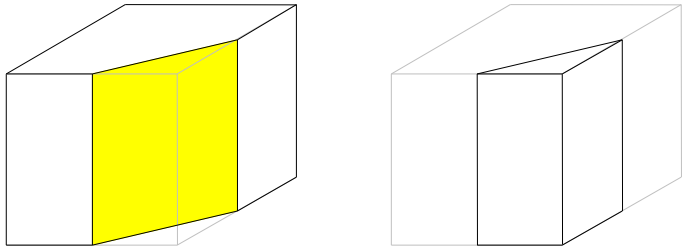
PROBLEM:

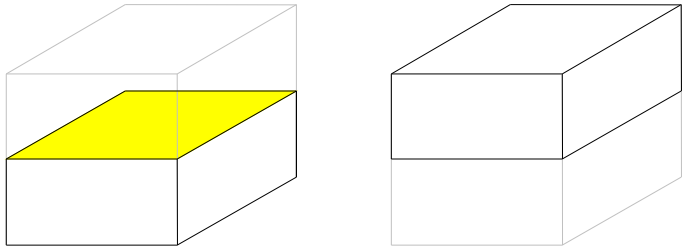
What is the largest number of edges you can get on a cross-section of a square?



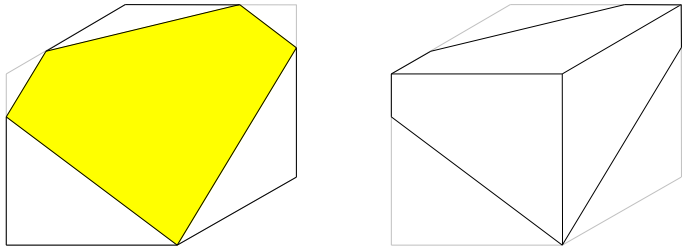
3 sides



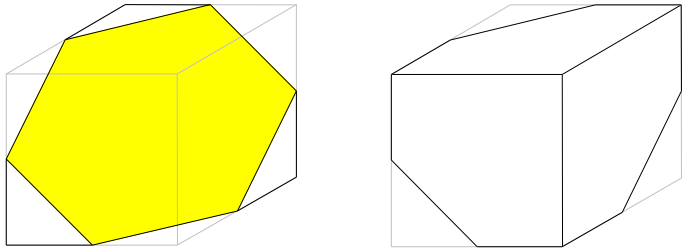
4 sides
(A)



4 sides
(B)



5 sides



6 sides

Each face of the cube can only contain one edge of the "sliced" polygon, since a plane can intersect another plane in only one line. A cube has six faces, so a hexagon is the largest polygon possible.