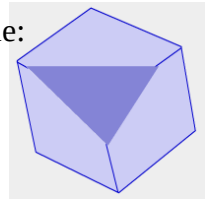
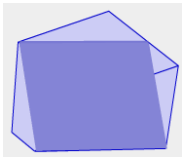
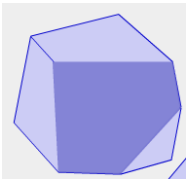
5. Which of the following shapes can not be formed by intersecting a plane with a cube?

A. Triangle	Incorrect. An example:  Illustration from http://www.learner.org/courses/learningmath/geometry/session9/part_c/index.html
B. Parallelogram	Incorrect. An example:  Illustration from http://www.learner.org/courses/learningmath/geometry/session9/part_c/index.html
C. Pentagon	Incorrect. An example:  Illustration from http://www.learner.org/courses/learningmath/geometry/session9/part_c/index.html
D. Octagon	Correct. It is not possible to form a cross section shaped like an octagon.