No need for detailed pseudocode or formulae. Answer each question with a short sentence or two in plain English describing at a high level the algorithm that you would implement to solve the problem. Problems are in two dimensions. Use figures if they help.

1) <4 points> Test whether a polyloop P is oriented clockwise. (We assume that P does not self-cross.)
   Sign of signed area is positive
   OR
   Left-most vertex is a right turn.

2) <4 points> Four-point refinement of a polyloop P.
   For each quadruple of consecutive vertices (A,B,C,D) associate a new vertex M with the edge (B,C) where
   \[ M = S(A(A,D), 9/8, A(B,C)) \]
   where A() returns the average of two points and S(A,s,B) returns A +sAB.
   Then insert all these vertices.
   Repeating this converges to a smooth interpolating curve.

3) <4 points> Test whether two triangles (faces, not just borders) intersect.
   I interpret this question as: Test whether two closed triangles interfere (i.e. have a common point).
   For each edge E of triangle T, for each edge E' of triangle T' if E intersect E', return true.
   (Edge/edge intersection returns true when edges cross or when the a vertex of one is in the other.)
   // That is not enough, since one triangle may be inside the other… hence:
   For one vertex V of T (resp T') if V in T' (resp T) return true. You do not need to test all the vertices, just one per triangle.

4) <4 points> Test whether a point q lies inside a polygon P.
   Shoot ray R from q that avoids all vertices of P. If R hits an odd number of edges of P, return true

5) <4 points> Compute the convex hull of a polyloop P.
   Keep removing concave vertices one by one when their removal is safe: i.e., it does not produce a self-intersection.
   Removing vertex B in sequence A, B, C is safe when the triangle (A,B,C) contains no other vertex.

5) <4 points> (Bonus question) Advantages (+) and drawbacks (–) of a cubic B-spline subdivision over the four-point subdivision.
   + B-spline is smoother (C^2). Four-point is only C^1 and may exhibit abrupt changes of curvature (infinite jerk).
   + B-spline is a series of spans that each have a representation as a parametric cubic (four-point does not).
   - B-spline is not interpolating (does not go through vertices).