**Beginner:**

BS:

<http://www.lightoj.com/volume_showproblem.php?problem=1062>

<http://www.lightoj.com/volume_showproblem.php?problem=1137>

Algo Links: <http://geomalgorithms.com/algorithms.html>

Vector 2D: <https://github.com/jaehyunp/stanfordacm/blob/master/code/Geometry.cc>

Convex Hull:   
LOJ 1239: <http://pastebin.com/HpKTN1wr>

LOJ 1203, 1285.

Analytical Geometry: UVA 10283, 10286, 10287 (BS)

**Advance:**

Vector Theory:

Operations: projection, reflection, mirror, [rotation](http://math.stackexchange.com/questions/511370/how-to-rotate-one-vector-about-another), Area of polygon, 3D volume.  
Linear Transformation: Mirror Query <https://docs.google.com/document/d/1KvJj5eDQwoV7dMuXw0gJcOZVZc1SlytIy_pQxm4mo2I>

Vector routine: 2D <https://github.com/jaehyunp/stanfordacm/blob/master/code/Geometry.cc>

Algo Links: <http://geomalgorithms.com/algorithms.html>

<http://www.lightoj.com/volume_showproblem.php?problem=1313>

<http://www.lightoj.com/volume_showproblem.php?problem=1358>

Crazy Minion: <https://drive.google.com/open?id=0B1o0gxWv12-vV1duc19nZ0d1SlFKN3QyQXRZNXZoSmViUFA4>

<https://uva.onlinejudge.org/external/120/12029.pdf>

Timus: 1703, 1710, 1697

TJU: 3114

UVA: 11580

Algorithm:  
 N circle union area n^2 log n (live archive 2895 dhk 03, SGU 435)

Number of obtuse angle triangle n^2 log n (uva 11529)

Rotating Calipers:

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.155.5671&rep=rep1&type=pdf>

<http://poj.org/problem?id=3608>

<http://poj.org/problem?id=2187>

Rectangular Dustbin: Polygon dust.

* Soldier spells.

Convex Combination:

<http://codeforces.com/contest/605/problem/C>

<https://en.wikipedia.org/wiki/Convex_combination>

Packing Problems:

10283 \*\*  
10286 \*  
10287 \*\*\* +BS  
10289 \*\*\*\* +BS  
10353 \*\*\*\* +BS  
10402  
10481 \*\*\*\* +BS  
  
11009 \*\*\*\*

Geodesic Distance

<http://en.wikipedia.org/wiki/Great-circle_distance>

10517 \*\*\*

10598 \*\*\*

10809 \*\*\*\*\* - Geodesic distance / Solving Using Parameter / Great Circle's Clear Concept.