

- critical point, 1459
- local extremum, 1458
- local extremum with respect to U , 1461
- local maximum, 1458
- local maximum with respect to U , 1461
- local minimum, 1458
- local minimum with respect to U , 1460
- maximum in u , 1480
- maximum respect to U , 1480
- minimum in u , 1480
- minimum respect to U , 1480
- strict local maximum, 1458
- strict local minimum, 1458
- strict maximum in u , 1480
- strict maximum respect to U , 1480
- strict minimum in u , 1480
- strict minimum respect to U , 1480
- reduced QR factorization, 668
- reduced row echelon form, *see* rref
- reduced row echelon matrix, 290, 293
- reflection, 439
 - about a plane, 976
 - with respect to F and parallel to G , 493
- reflection about F
 - definition, 494
- region, 1343
 - closed, 1343
- regular value, 1467
- relative boundary, 1826
- relative extremum, *see* local maximum
- relative interior, 1826
- relative maximum, *see* local maximum
- relative minimum, *see* local minimum
- relatively compact, 1353
- replacement lemma, 79, 81
- reproducing kernel Hilbert space, 1920
 - reproducing property, 1921
- ridge regression, 56
 - RR1**, 2035
 - RR3**, 2037
 - RR3b**, 2045
 - RR4**, 2040
 - RR5**, 2040
 - RR6**, 2040
 - RR6'**, 2041
 - dual of **RR3**, 2038
 - kernel, 2047
 - kernel **KRR6'**, 2049
- Riemannian metric
 - Gram matrix, 1146
- Riesz representation theorem, 453
- Riesz–Fischer theorem, 2127
- rigde regression
 - bias, 2040
- right hook
 - connection to left hook, 1223
 - definition, 1222
 - duality version, 1223
 - insertion operator, 1225
 - properties, 1224
- rigid map, 967
- rigid motion, 439, 465, 791, 825
 - definition, 967
- RKHS, *see* reproducing kernel Hilbert space
- Rodrigues, 588
- Rodrigues' formula, 471, 599
- rotation, 439, 821, 976
 - definition, 470
 - in terms of flips, 966
- row vector, 50, 85, 406
- row vectors, 799
- rref, *see* reduced row echelon matrix
 - augmented matrix, 291
 - pivot, 293
- saddle point, 1516, 1773
- sample, 770
 - covariance, 771
 - covariance matrix, 771
 - mean, 770
 - variance, 770
- Samuel, 877, 887
- scalar product
 - definition, 440