

IJSO Guide Challenge problem statistics

I. MCQ exam:

The following table gives all MCQ questions ordered by the average mark that students got on it:

Q26	0.0625	Q6	0.4844	Q1	0.7031
Q27	0.2656	Q21	0.5000	Q10	0.7031
Q23	0.3125	Q4	0.5469	Q16	0.7031
Q11	0.3281	Q18	0.5625	Q30	0.7031
Q13	0.3438	Q22	0.5625	Q12	0.7188
Q25	0.3750	Q19	0.5781	Q8	0.7344
Q3	0.4063	Q5	0.6094	Q14	0.7813
Q28	0.4375	Q17	0.6406	Q2	0.7969
Q9	0.4688	Q20	0.6406	Q29	0.7969
Q15	0.4688	Q7	0.6875	Q24	1.0000

II. Theory exam:

The theory problems, in order of increasing difficulty (judged by the average score):

1. Problem 1 – 5.361/7.60 (70.5%)
2. Problem 4 – 5.542/8.00 (69.3%)
3. Problem 2 – 6.364/9.40 (68.2%)
4. Problem 3 – 7.838/15.00 (52.3%)

A similar analysis, but done for each individual part, reveals the following order of difficulty (average mark only expressed as a percentage of the total one):

Part	Average	Part	Average
3B	29.5%	2B	69.8%
2C	53.1%	3C	70.0%
3A	58.3%	1A	70.8%
3E	59.1%	4A	73.3%
4B	63.5%	4C	75.1%
1C	66.2%	1B	75.6%
3D	67.8%	2A	80.4%

III. Experiment exam:

The theory problems, in order of increasing difficulty (judged by the average score):

1. Problem 5 – 2.444/3.40 (71.9%)
2. Problem 1 – 5.588/8.40 (66.5%)
3. Problem 2 – 4.300/7.00 (61.4%)
4. Problem 3 – 3.176/5.50 (57.7%)
5. Problem 4 – 2.956/5.70 (51.9%)

A similar analysis, but done for each individual part, reveals the following order of difficulty (average mark only expressed as a percentage of the total one):

Part	Average	Part	Average
4A	39.1%	4B	68.3%
1C	51.2%	5	71.9%
3A	52.1%	1A	78.9%
2	61.4%	3B	83.3%
1B	66.5%		

Note: problems 2 and 5 were graded as a whole and the averages couldn't be calculated separately for each part.