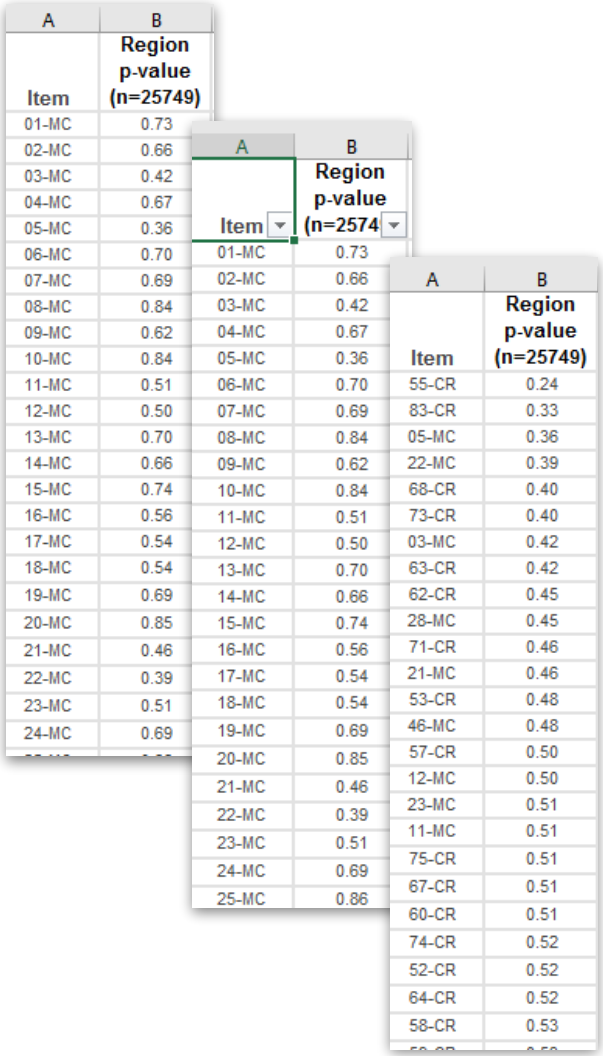
Sorting p-values to show item difficulty

Step 1

Using a p-value report from your RIC, eliminate extraneous columns and arrange items from low to high (Excel sort).



Item	Region p-value (n=25749)
01-MC	0.73
02-MC	0.66
03-MC	0.42
04-MC	0.67
05-MC	0.36
06-MC	0.70
07-MC	0.69
08-MC	0.84
09-MC	0.62
10-MC	0.84
11-MC	0.51
12-MC	0.50
13-MC	0.70
14-MC	0.66
15-MC	0.74
16-MC	0.56
17-MC	0.54
18-MC	0.54
19-MC	0.69
20-MC	0.85
21-MC	0.46
22-MC	0.39
23-MC	0.51
24-MC	0.69
25-MC	0.86
55-CR	0.24
83-CR	0.33
05-MC	0.36
22-MC	0.39
68-CR	0.40
73-CR	0.40
03-MC	0.42
63-CR	0.42
62-CR	0.45
28-MC	0.45
71-CR	0.46
21-MC	0.46
53-CR	0.48
46-MC	0.48
57-CR	0.50
12-MC	0.50
23-MC	0.51
11-MC	0.51
75-CR	0.51
67-CR	0.51
60-CR	0.51
74-CR	0.52
52-CR	0.52
64-CR	0.52
58-CR	0.53

Step 2

Using the appropriate conversion chart from **nysedregents.org**, determine the number of score points needed to reach each cut point. Here I used the 13 point column because the average student scored 13 points for the performance assessment (determined by looking at the p-value for that task, item 86). The red oval indicates the L4 cut point. Repeat for all cut points. In this case L1=30 points, L2=9, L3=9, and L4=23.

Total Written Test	Performance Score 16	15	14	13
85	100	99	99	99
84	99	99	98	98
83	99	99	98	98
82	98	98	98	97
81	98	98	98	97
80	97	97	97	96
79	97	96	96	95
78	97	96	96	95
77	96	95	95	95
76	95	95	94	94
75	94	94	93	93
74	94	94	93	93
73	93	93	92	92
72	92	92	92	91
71	92	92	92	91
70	92	91	91	90
69	91	90	90	89
68	90	90	89	89
67	89	89	88	88
66	88	88	87	87
65	88	88	87	87
64	87	87	87	86
63	86	86	86	85
62	86	85	85	84
61	85	84	84	84

Step 3

In the p-value report, color the level groupings (the number of points needed to reach each cut point). I usually leave the L1 group white, L2 yellow, L3 gold, and L4 blue. Here you see that the top 23 scores (L4) as blue and the beginning of the gold-colored L3 scores.

	A	B	C	D
1	Item	Region p-value (n=25749)	L3 p-value (n=20146)	L4 p-value (n=9013)
2	55-CR	0.24	0.30	0.49
3	83-CR	0.33	0.40	0.60
4	05-MC	0.36	0.40	0.59
5	22-MC	0.39	0.43	0.52
6	68-CR	0.40	0.48	0.65
7	73-CR	0.40	0.48	0.66
8	03-MC	0.42	0.47	0.59
9	63-CR	0.42	0.51	0.70
10	62-CR	0.45	0.52	0.69
11	28-MC	0.45	0.51	0.64
12	71-CR	0.46	0.57	0.81
13	21-MC	0.46	0.51	0.66
14	53-CR	0.48	0.55	0.72
15	46-MC	0.48	0.52	0.60
16	57-CR	0.50	0.60	0.85
17	12-MC	0.50	0.56	0.70
18	23-MC	0.51	0.57	0.74
19	11-MC	0.51	0.59	0.79
20	75-CR	0.51	0.61	0.79
21	67-CR	0.51	0.60	0.82
22	60-CR	0.51	0.62	0.83
23	74-CR	0.52	0.61	0.81
24	52-CR	0.52	0.62	0.83
25	64-CR	0.52	0.61	0.76
26	58-CR	0.53	0.62	0.78
27	59-CR	0.53	0.60	0.70
28	78-CR	0.53	0.64	0.80

Western New York Regional Information Center dataview@e1b.org Denny Atkinson