

General

What	Result	Explanation of the tables
Number of students	240	For each question the frequency, percentage and item rest correlations (IRC) from every answer option are displayed. The IRC should be (highly) positive for the right answer option and low for the wrong answer option(s).
Number of questions	40	
Average score	16.417	
Standard deviation	2.973	
Cronbach's alpha	-0.061	
Standard error	3.062	

Item statistics

- Item 1:

Answer Option	Frequency	Percentage	IRC	Correct
A	84	35	0.052	X
B	74	30.8	-0.056	
C	79	32.9	0.005	
Missing	3	1.2	-0.016	

- Item 2:

Answer Option	Frequency	Percentage	IRC	Correct
A	83	34.6	0.02	
B	67	27.9	0.002	X
C	90	37.5	-0.022	
Missing	0	0	0	

- Item 3:

Answer Option	Frequency	Percentage	IRC	Correct
A	86	35.8	0.043	X
B	71	29.6	-0.027	
C	82	34.2	-0.006	
Missing	1	0.4	-0.091	

• Item 4:

	frequency	percentage	IRC
Correct	138	57.5	0.034

• Item 5:

	frequency	percentage	IRC
Correct	112	46.7	-0.018

• Item 6:

Answer Option	Frequency	Percentage	IRC	Correct
A	85	35.4	0.035	X
B	80	33.3	0.055	
C	74	30.8	-0.083	
Missing	1	0.4	-0.068	

• Item 7:

	frequency	percentage	IRC
Correct	119	49.6	-0.004

• Item 8:

	frequency	percentage	IRC
Correct	123	51.2	0.005

frequency	percentage	IRC
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• Item 9:

	frequency	percentage	IRC
Correct	124	51.7	-0.007

• Item 10:

Answer Option	Frequency	Percentage	IRC	Correct
A	89	37.1	-0.067	X
B	74	30.8	0.124	
C	73	30.4	-0.032	
Missing	4	1.7	-0.079	

• Item 11:

	frequency	percentage	IRC
Correct	119	49.6	-0.047

• Item 12:

Answer Option	Frequency	Percentage	IRC	Correct
A	81	33.8	-0.06	
B	77	32.1	0.042	X
C	77	32.1	0.014	
Missing	5	2.1	0.015	

• Item 13:

Answer Option	Frequency	Percentage	IRC	Correct
A	87	36.2	-0.046	

Answer Option	Frequency	Percentage	IRC	Correct
B	79	32.9	-0.045	
C	71	29.6	0.077	X
Missing	3	1.2	0.073	

• Item 14:

	frequency	percentage	IRC
Correct	126	52.5	0.039

• Item 15:

Answer Option	Frequency	Percentage	IRC	Correct
A	85	35.4	0.029	
B	80	33.3	-0.056	X
C	71	29.6	0.031	
Missing	4	1.7	-0.015	

• Item 16:

Answer Option	Frequency	Percentage	IRC	Correct
A	79	32.9	-0.042	X
B	69	28.7	0.012	
C	91	37.9	0.029	
Missing	1	0.4	-0.002	

• Item 17:

Answer Option	Frequency	Percentage	IRC	Correct
A	69	28.7	0.025	X
B	69	28.7	-0.11	
C	99	41.2	0.059	
Missing	3	1.2	0.085	

- **Item 18:**

Answer Option	Frequency	Percentage	IRC	Correct
A	78	32.5	0.046	
B	70	29.2	0.046	
C	89	37.1	-0.064	X
Missing	3	1.2	-0.103	

- **Item 19:**

	frequency	percentage	IRC
Correct	111	46.2	-0.045

- **Item 20:**

	frequency	percentage	IRC
Correct	112	46.7	0.051

- **Item 21:**

	frequency	percentage	IRC
Correct	132	55	0.092

- **Item 22:**

	frequency	percentage	IRC
Correct	108	45	-0.049

- **Item 23:**

	frequency	percentage	IRC
Correct	134	55.8	-0.04

- Item 24:

	frequency	percentage	IRC
Correct	116	48.3	-0.113

- Item 25:

Answer Option	Frequency	Percentage	IRC	Correct
A	77	32.1	-0.018	
B	78	32.5	0.081	
C	81	33.8	-0.058	X
Missing	4	1.7	-0.014	

- Item 26:

Answer Option	Frequency	Percentage	IRC	Correct
A	84	35	-0.091	
B	77	32.1	0.017	
C	77	32.1	0.063	X
Missing	2	0.8	0.06	

- Item 27:

Answer Option	Frequency	Percentage	IRC	Correct
A	85	35.4	-0.031	X
B	71	29.6	-0.004	
C	80	33.3	0.036	
Missing	4	1.7	-0.003	

- Item 28:

	frequency	percentage	IRC
Correct	127	52.9	0.015

- Item 29:

Answer Option	Frequency	Percentage	IRC	Correct
A	96	40	-0.013	
B	74	30.8	-0.1	X
C	70	29.2	0.115	
Missing	0	0	0	

- Item 30:

	frequency	percentage	IRC
Correct	108	45	-0.032

- Item 31:

Answer Option	Frequency	Percentage	IRC	Correct
A	75	31.2	0.007	
B	82	34.2	0.079	X
C	81	33.8	-0.086	
Missing	2	0.8	-0.002	

- Item 32:

	frequency	percentage	IRC
Correct	120	50	-0.054

- Item 33:

	frequency	percentage	IRC
Correct	127	52.9	0.088

- Item 34:

Answer Option	Frequency	Percentage	IRC	Correct
A	70	29.2	-0.037	X
B	81	33.8	0.08	
C	89	37.1	-0.044	
Missing	0	0	0	

• **Item 35:**

Answer Option	Frequency	Percentage	IRC	Correct
A	76	31.7	-0.008	
B	66	27.5	0.018	X
C	95	39.6	-0.001	
Missing	3	1.2	-0.031	

• **Item 36:**

Answer Option	Frequency	Percentage	IRC	Correct
A	90	37.5	-0.095	
B	73	30.4	0.021	X
C	76	31.7	0.078	
Missing	1	0.4	-0.002	

• **Item 37:**

Answer Option	Frequency	Percentage	IRC	Correct
A	82	34.2	-0.025	
B	85	35.4	0.038	X
C	72	30	-0.014	
Missing	1	0.4	-0.001	

• **Item 38:**

	frequency	percentage	IRC
Correct	120	50	-0.056

- **Item 39:**

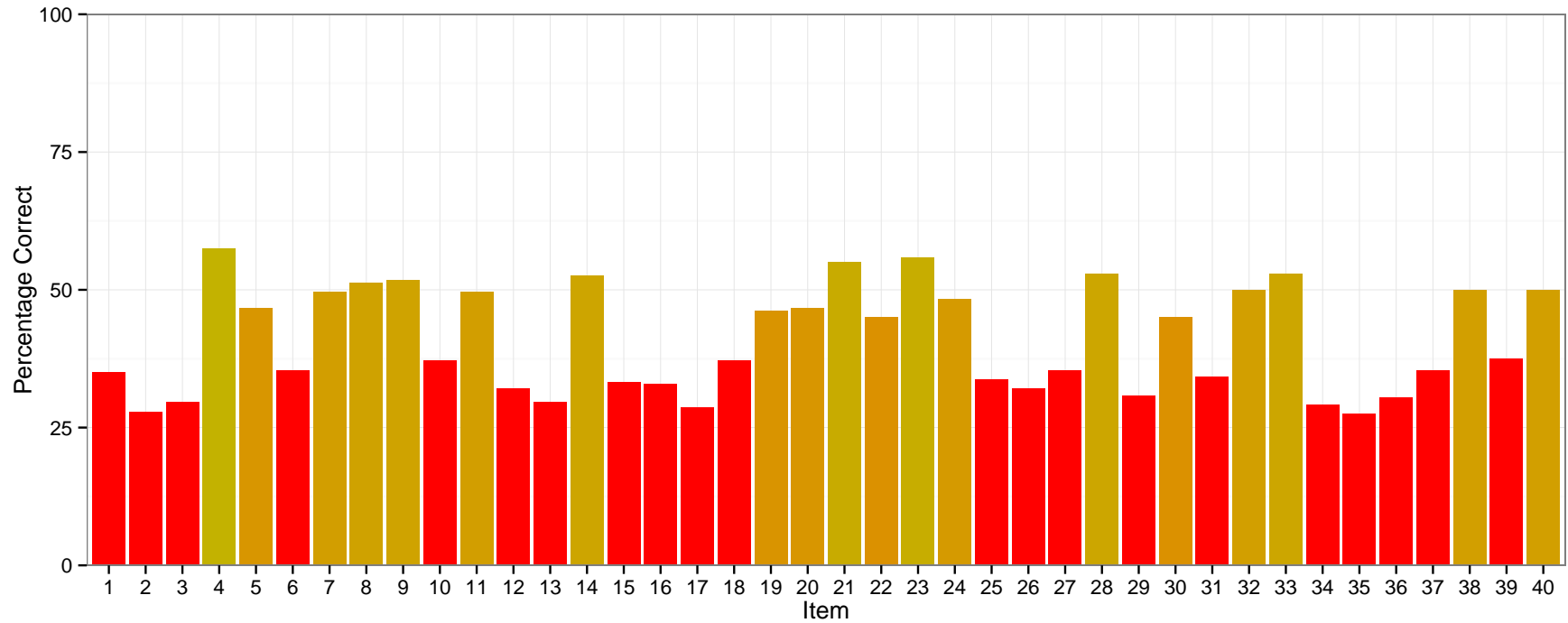
Answer Option	Frequency	Percentage	IRC	Correct
A	77	32.1	-0.013	
B	90	37.5	-0.058	X
C	71	29.6	0.09	
Missing	2	0.8	-0.079	

- **Item 40:**

	frequency	percentage	IRC
Correct	120	50	-0.109

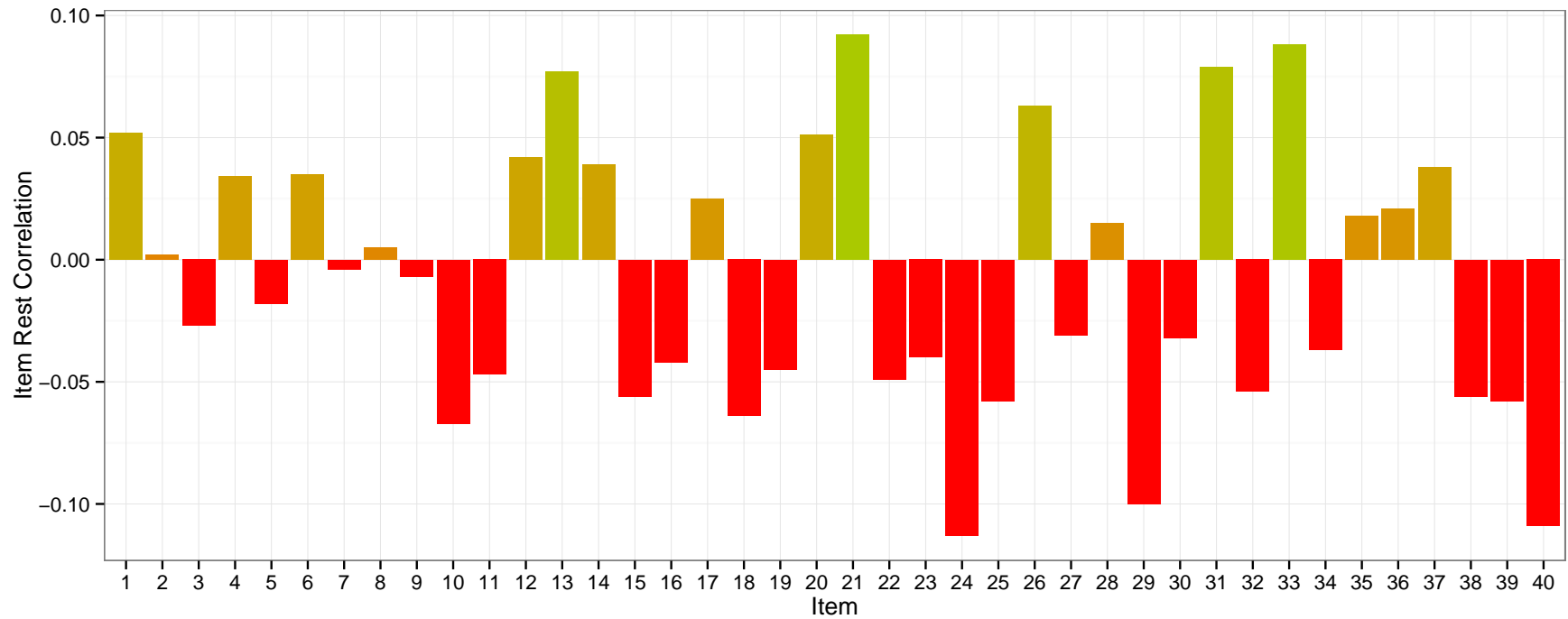
Percentage Correct

Plot of percentage correct per item. If *more than 70%* of the students answer an item correctly, the students have mastered the material well enough, thus it is coloured *green*. If *less than 40%* of the students answer an item correctly, the students have not mastered the material, and is coloured *red*. *Orange* indicates the percentage correct lies *between 40% and 70%*. The boundaries of the colours are based on multiple choice items with 3 or 4 answer options.



Item rest correlations

Plot of Item Rest Correlations per item: The correlation between an item (0 for wrong answers and 1 for right answers) and the sum of all other items. Items with a correlation *higher than .1* indicate that students who answered this item correctly answered the other items more often correctly than students who answered this item incorrectly. Thus it is coloured *green*. Items with a correlation *lower than 0* indicate no relationship between this item and the other items, thus it is coloured *red*. *Between 0 and .1*, an item is coloured *orange*.

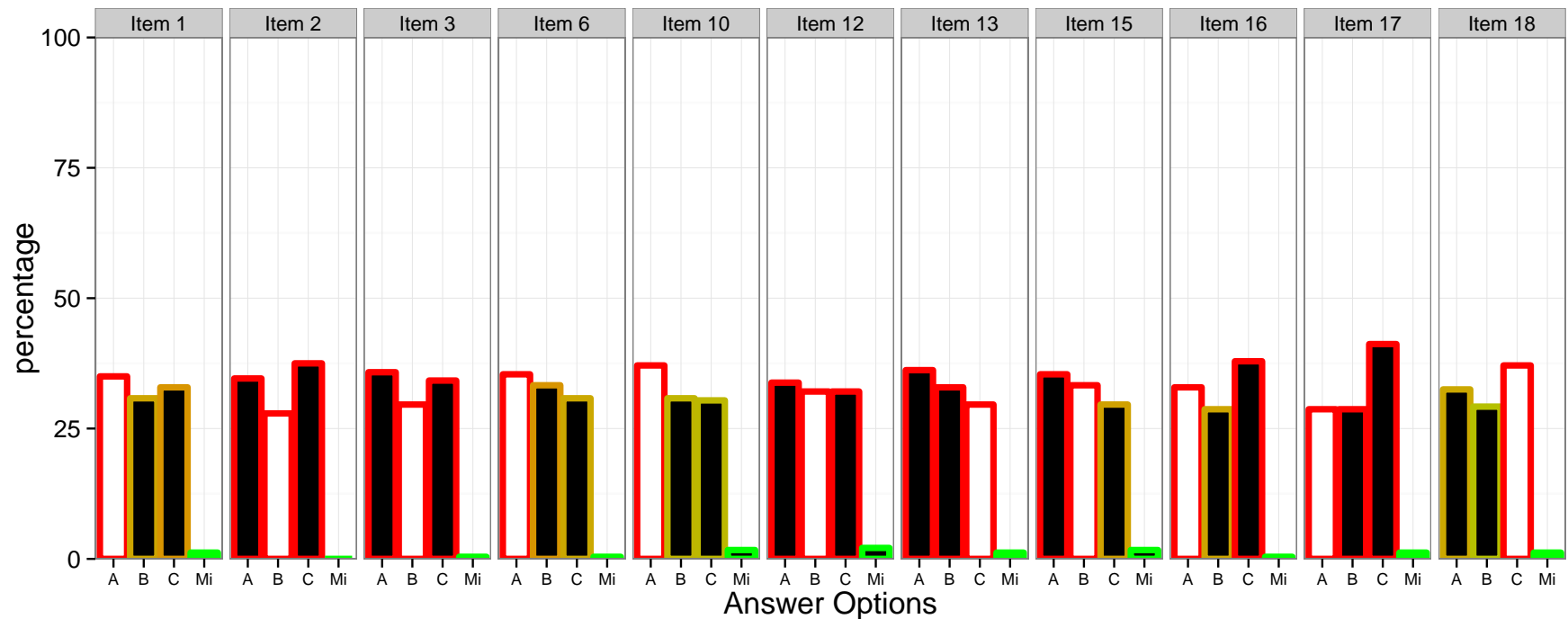


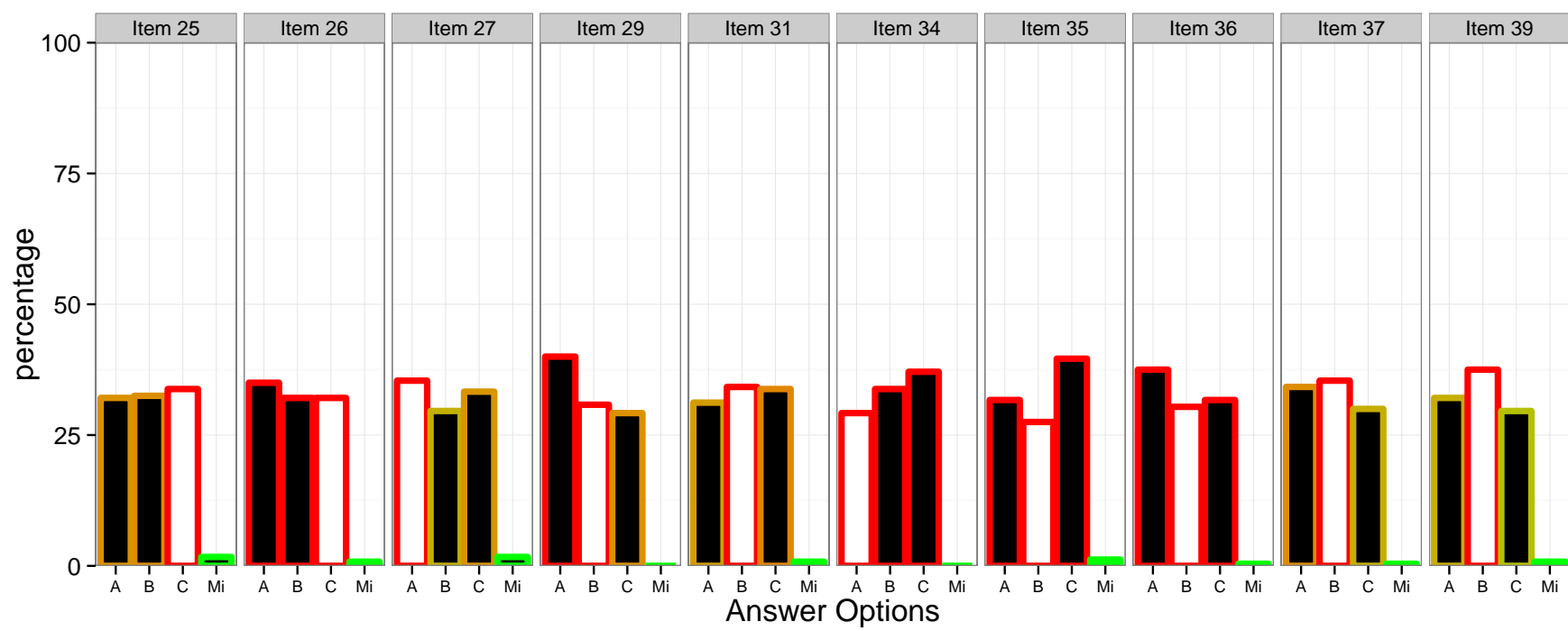
Percentage chosen per answer options

Percentage plot of all answer options per question. **White** bars represent the **right** answer option(s) and **black** the **wrong** options.

The border represents the performance of an item. The **right** answer options are coloured *green* if *more than 70%* of the students choose this option. In that case, the students have mastered the material. They are coloured *red* if *less than 40%* choose this option. *Between 40% and 70%*, it is coloured *orange*.

The **wrong** answer options are coloured *green* if an option is chosen *10 percentage point less than the right option*. In that case, more students chose the right answer option than the wrong option indicating that students are not confused by the wrong option. They are coloured *red* if an option is chosen *equally or more often than the right option*. In this case, students pick the wrong answer option often, indicating that this option may be right as well. It is coloured *orange* in between these two.



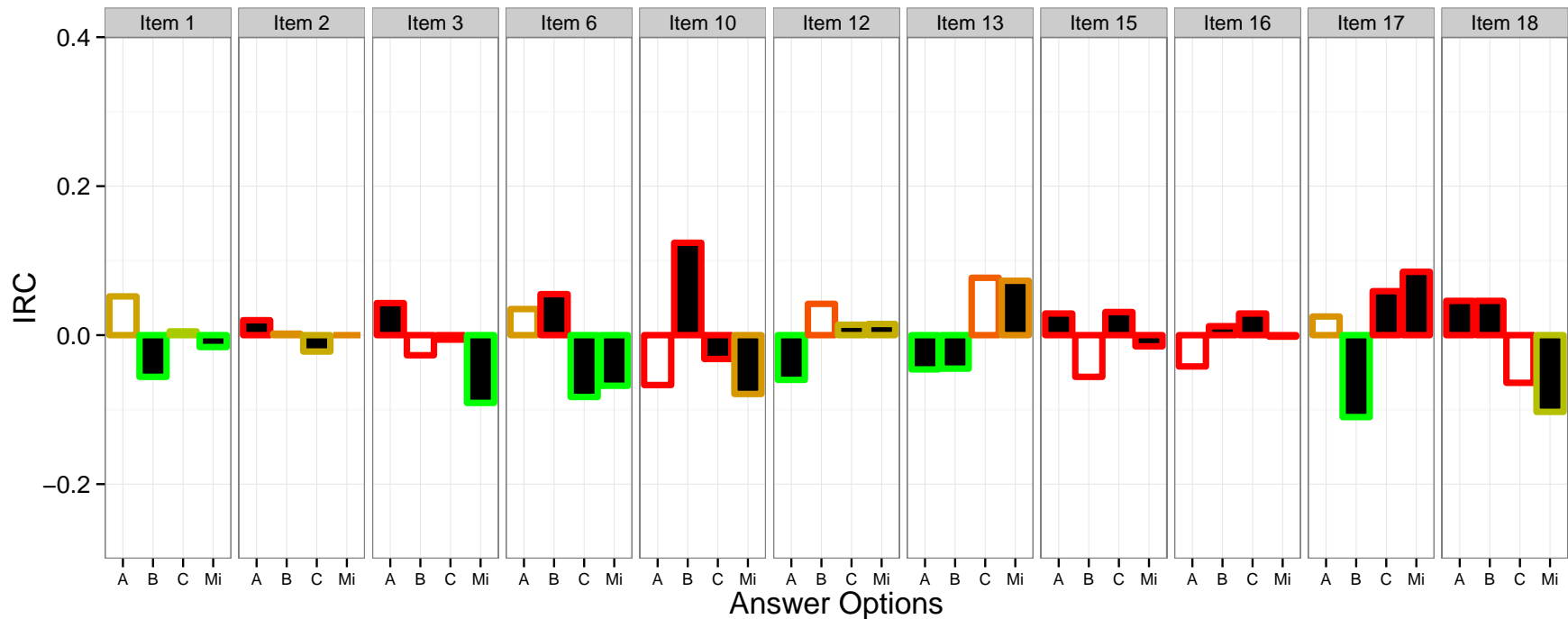


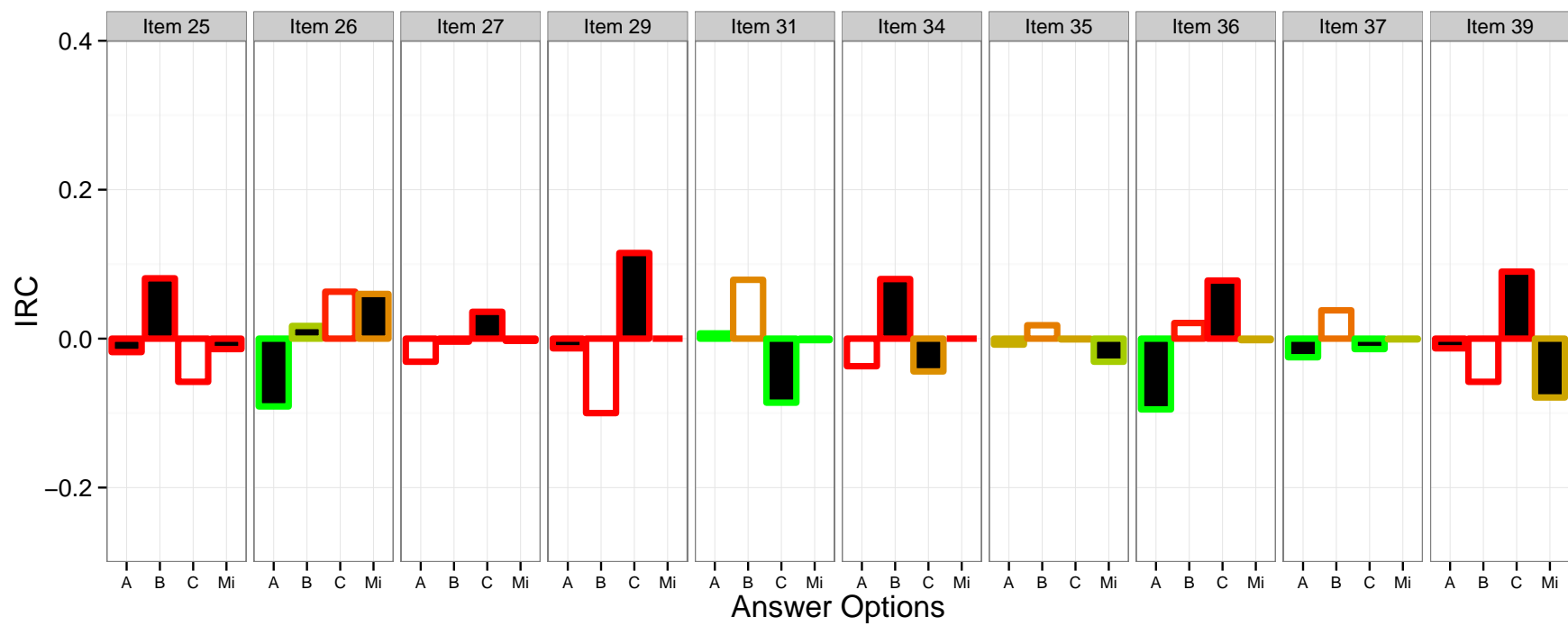
Item rest correlations per answer option

Item rest correlation (IRC) plot of all answer options per question. The IRC is the correlation between an answer option (1 for students who chose this options and 0 for student who did not) and the sumscore on all other items. **White** bars represent the **right** answer option(s) and **black** the **wrong** options.

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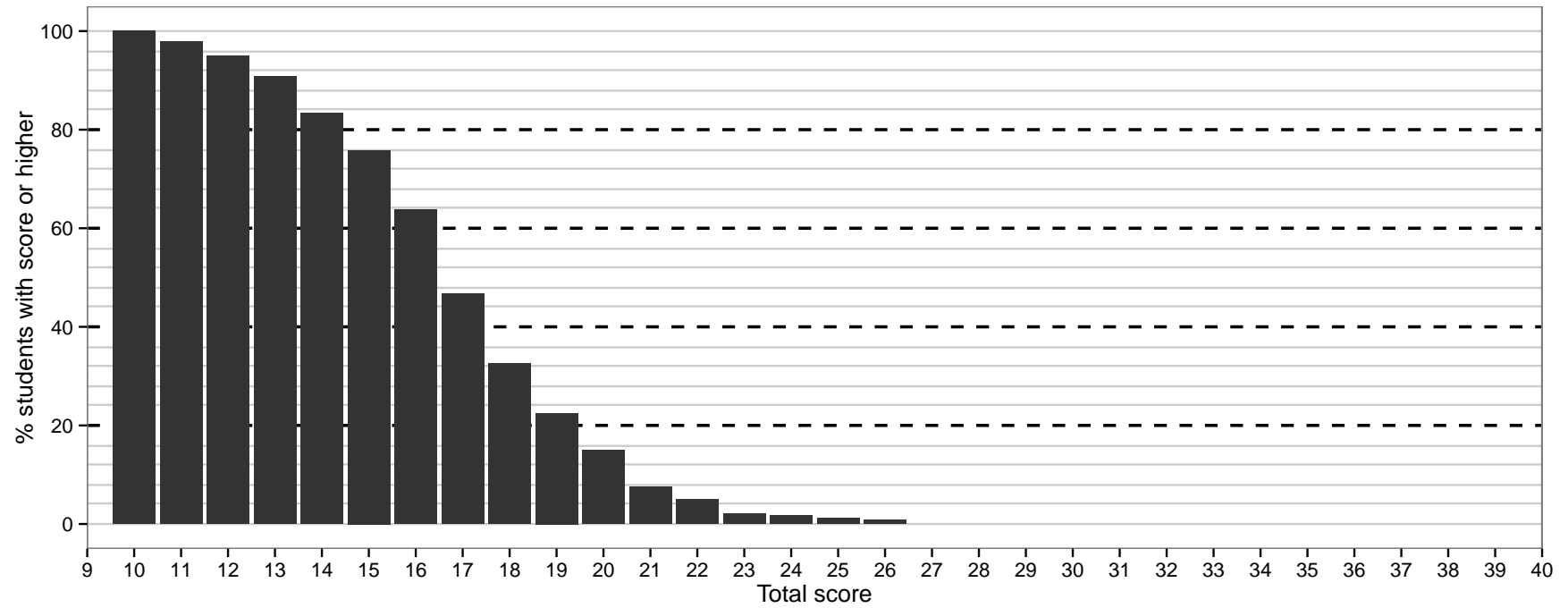
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Cumulative Distribution

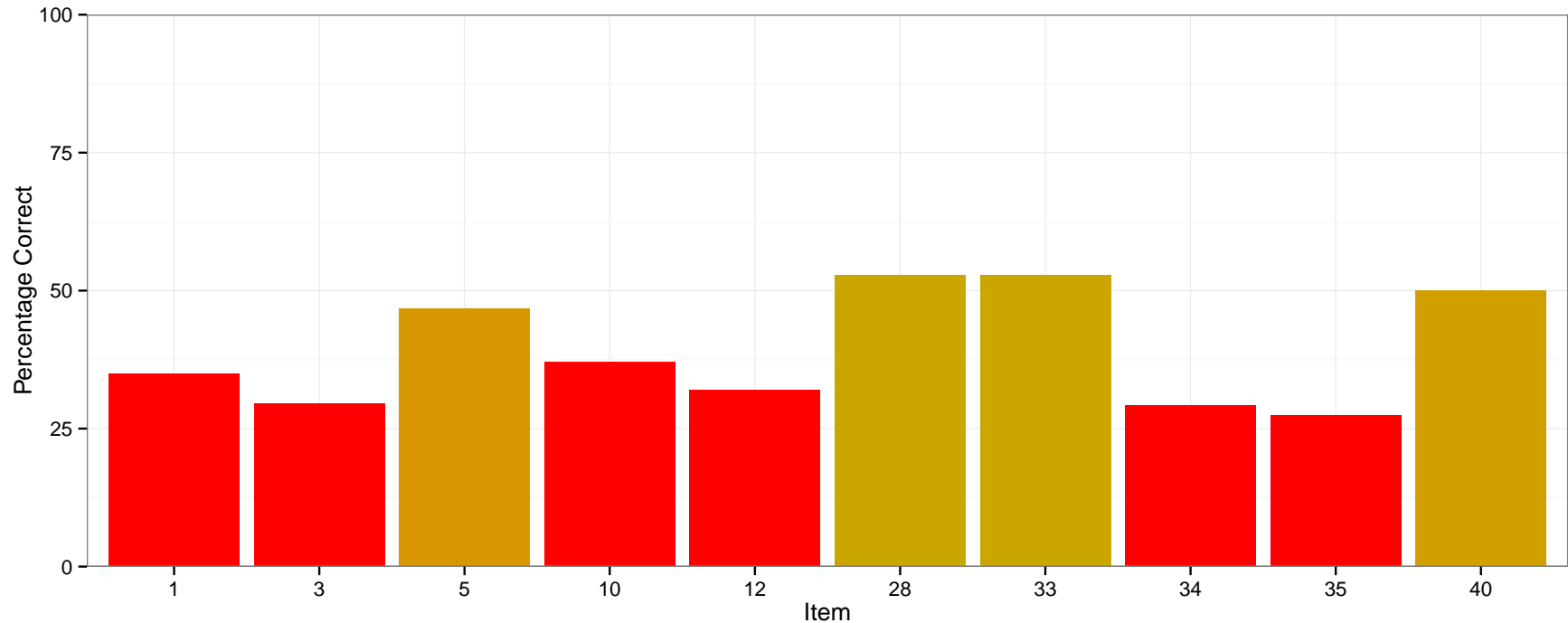
Cumulative Distribution showing all possible scores and the percentage of students that scored that number or higher



Category 1

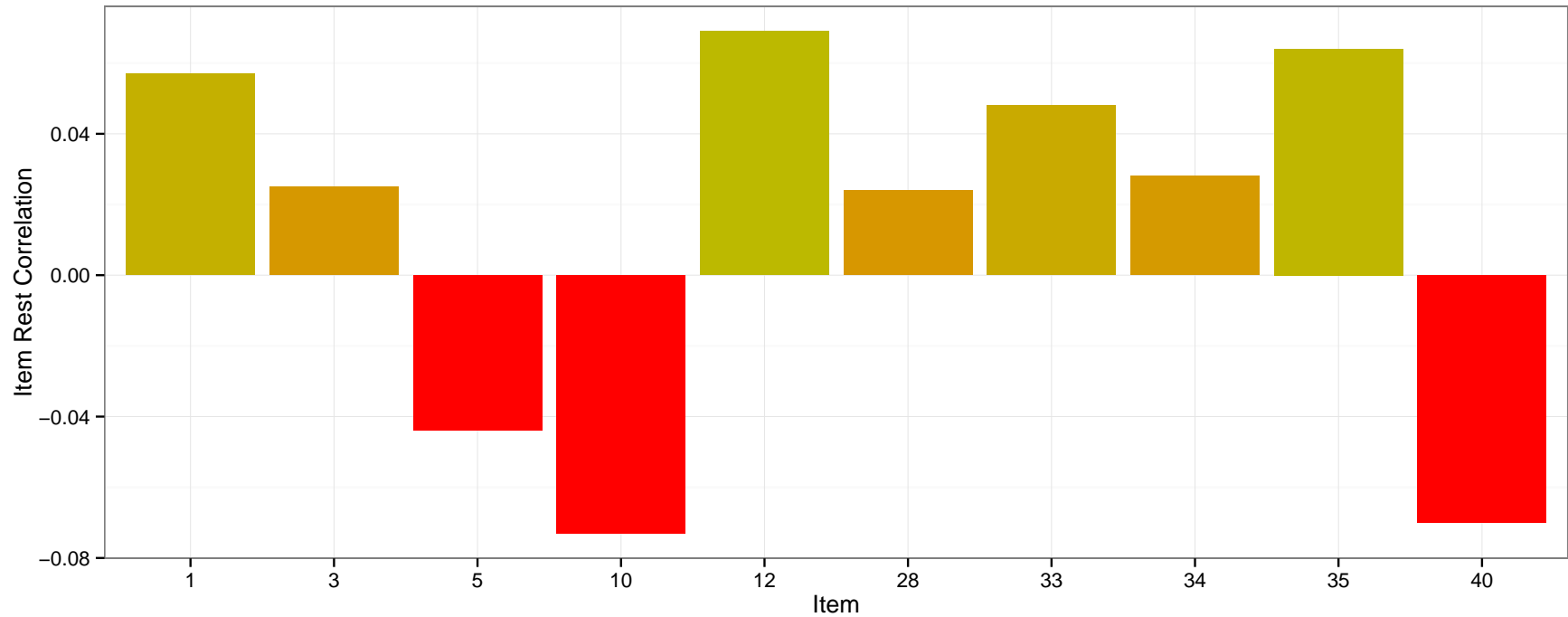
Percentage Correct

Plot of percentage correct per item. If *more than 70%* of the students answer an item correctly, the students have mastered the material well enough, thus it is coloured *green*. If *less than 40%* of the students answer an item correctly, the students have not mastered the material, and is coloured *red*. *Orange* indicates the percentage correct lies *between 40% and 70%*. The boundaries of the colours are based on multiple choice items with 3 or 4 answer options.



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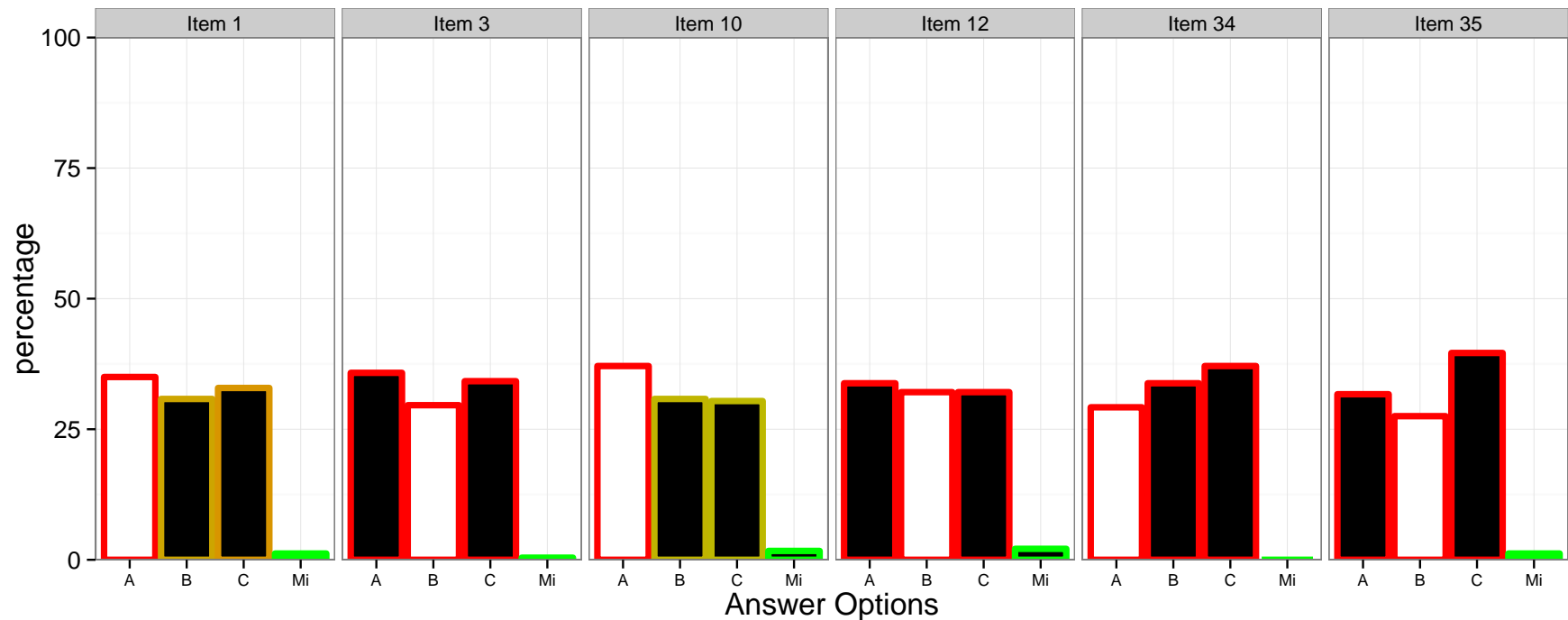


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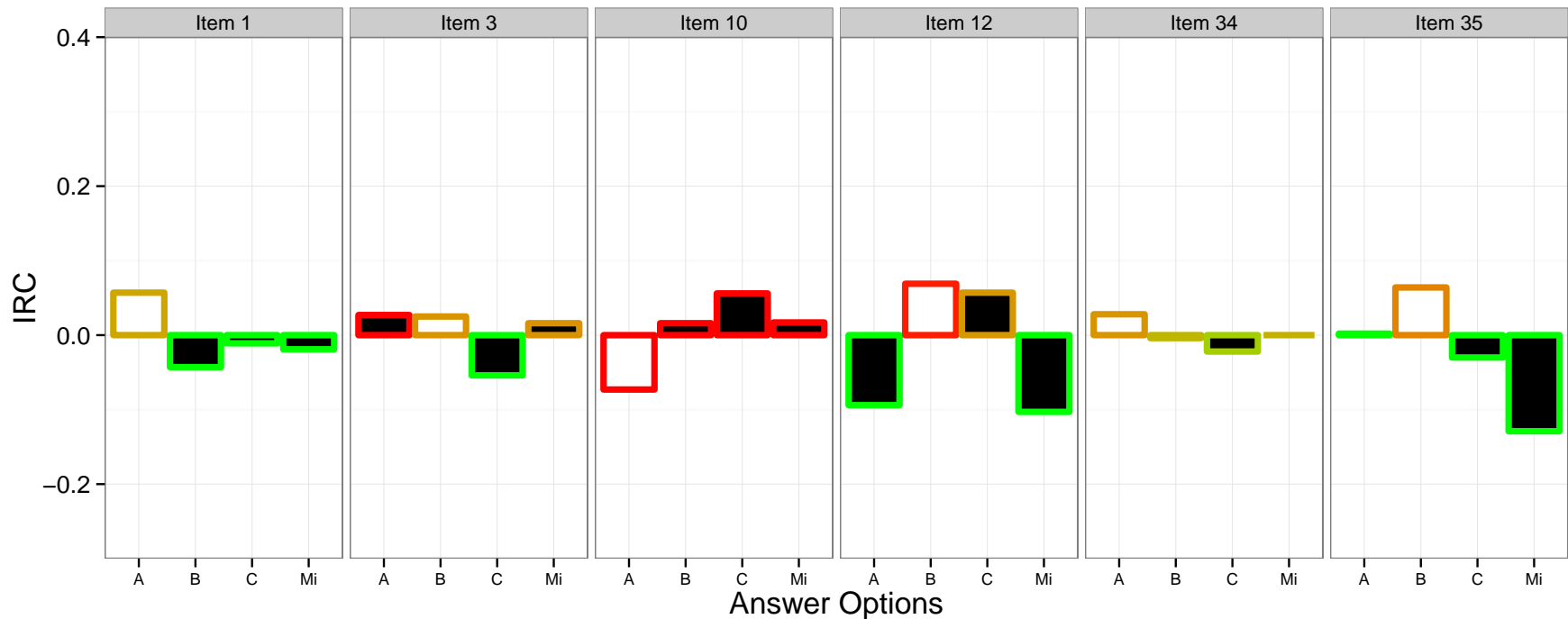


Item rest correlations per answer option

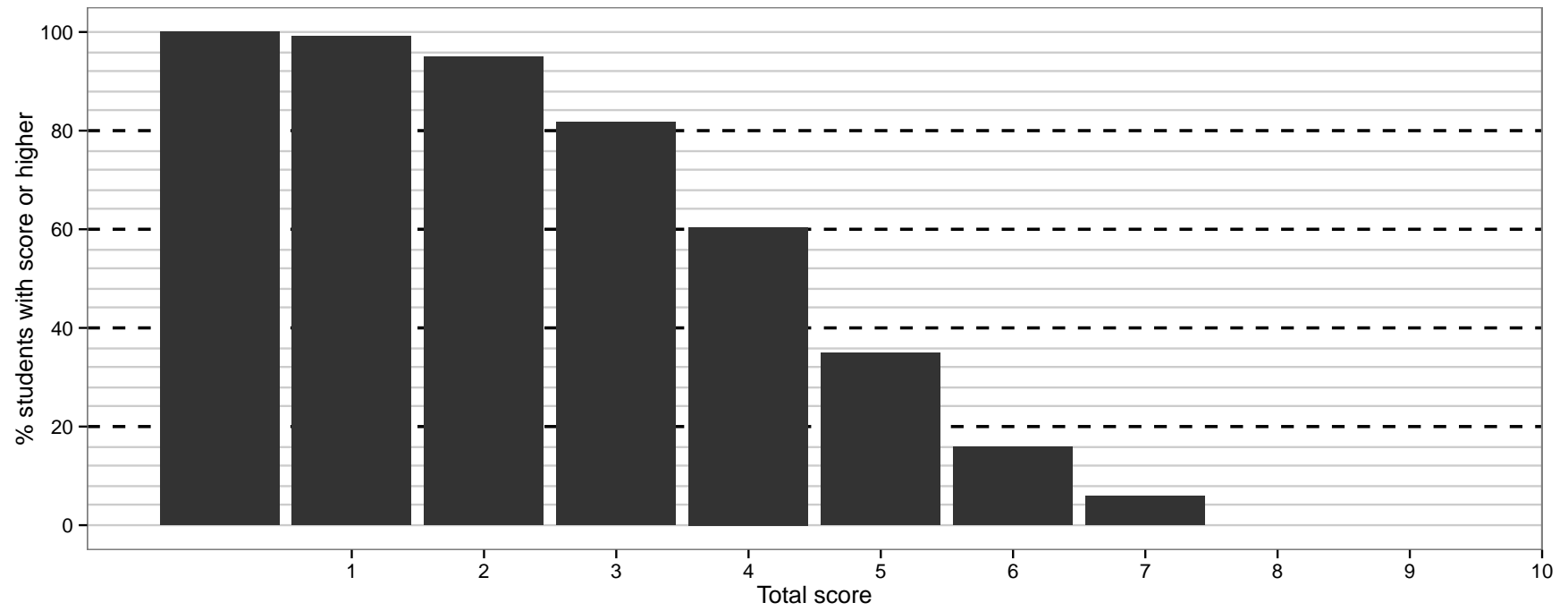
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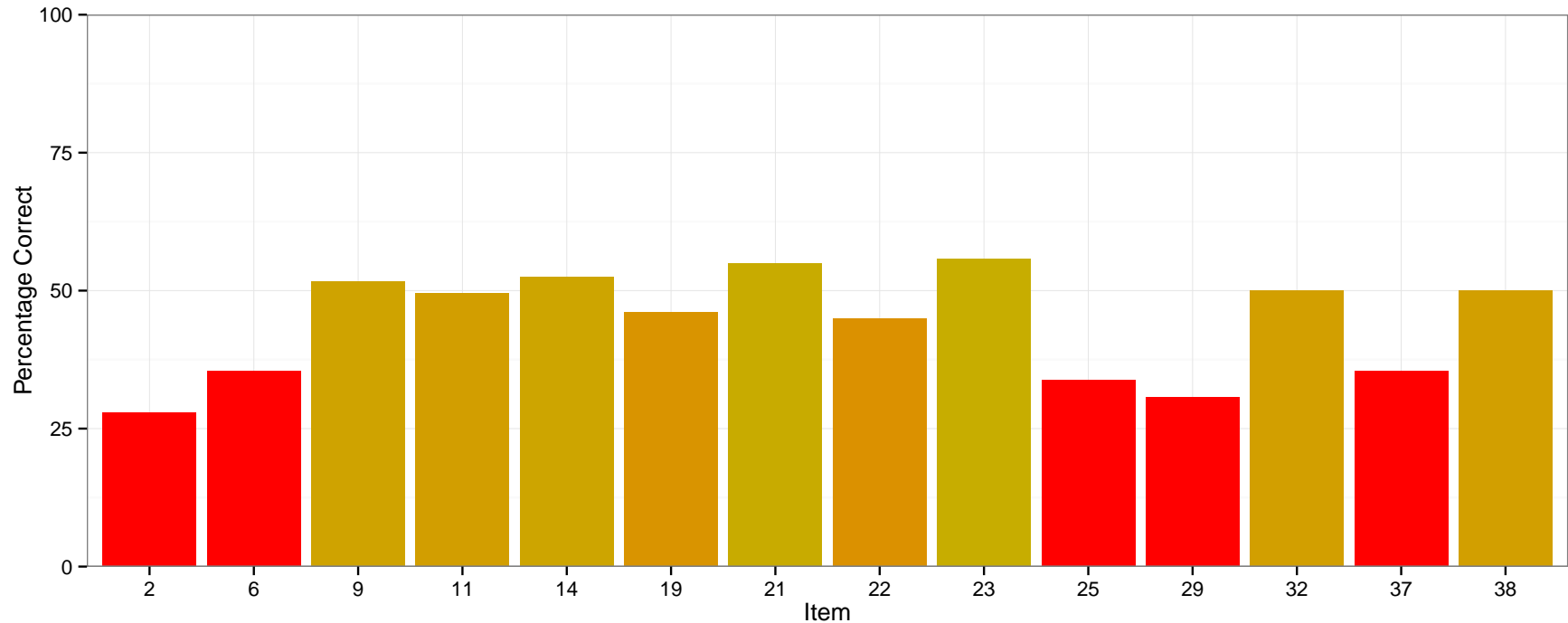
Cumulative Distribution



Category 2

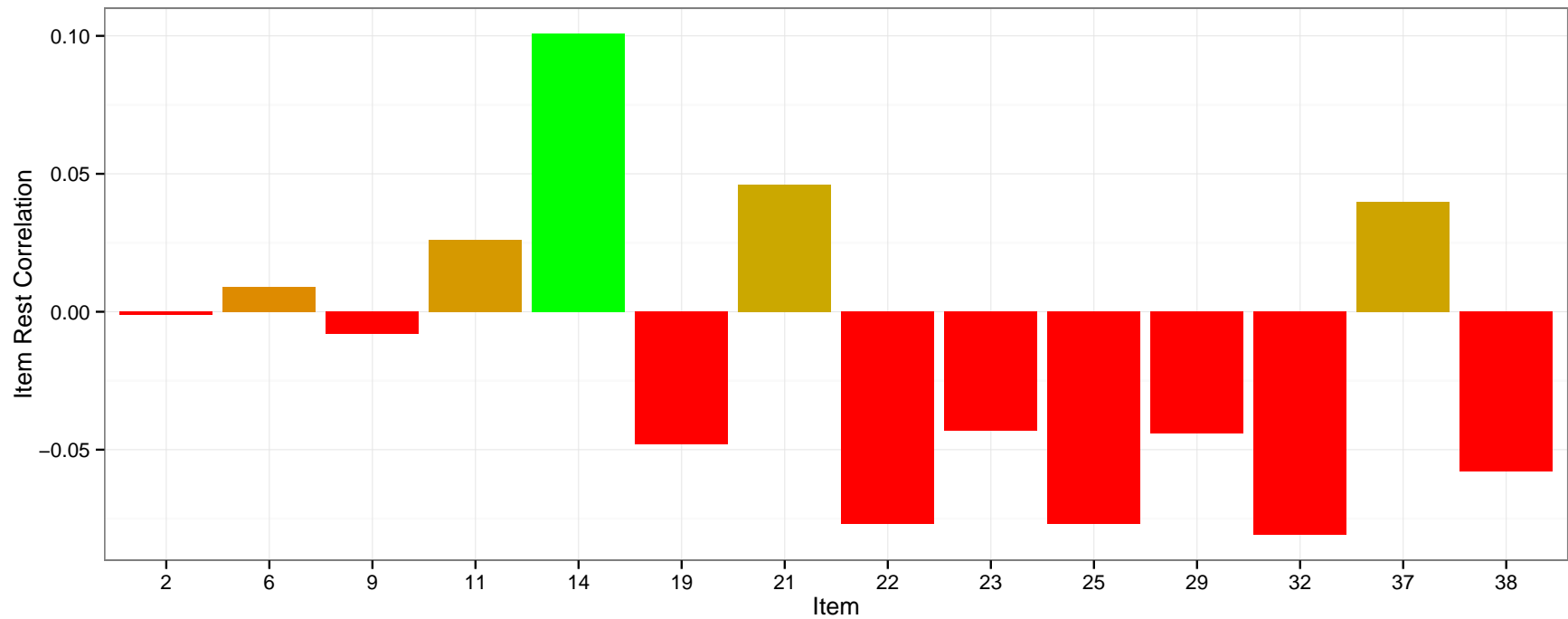
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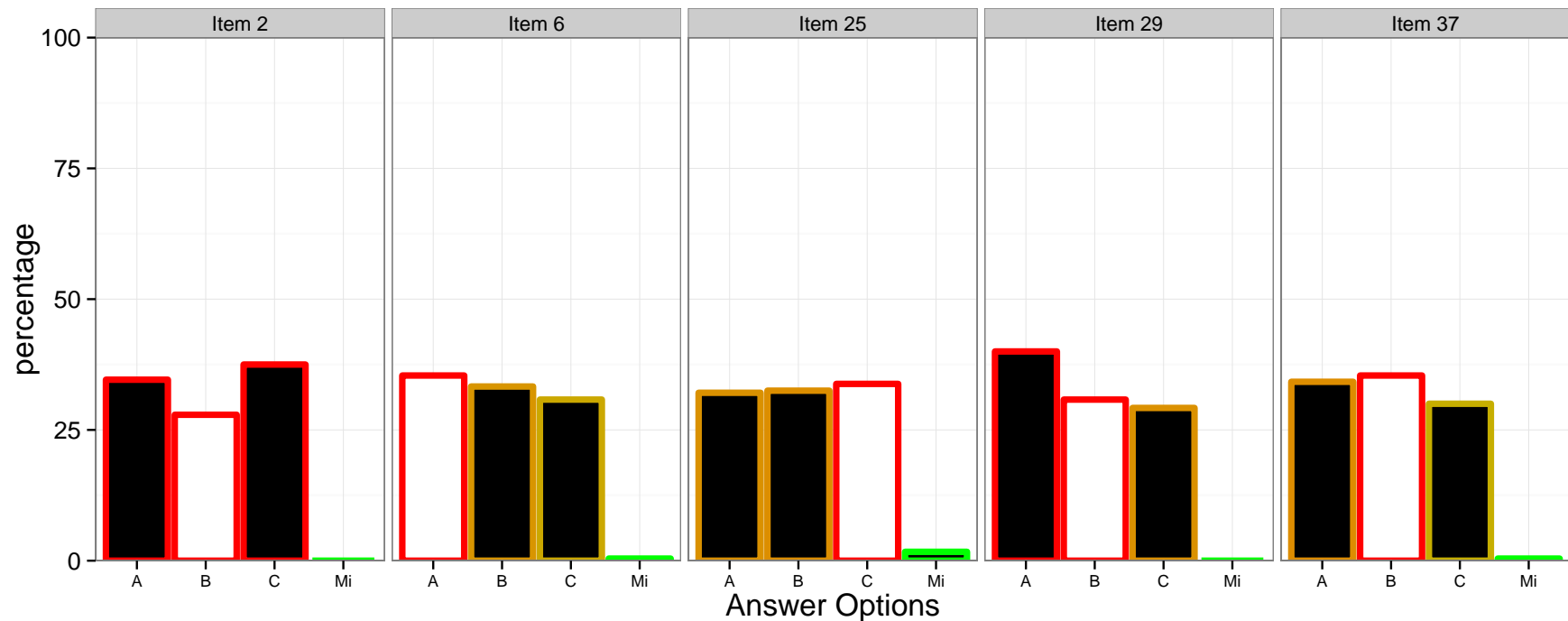


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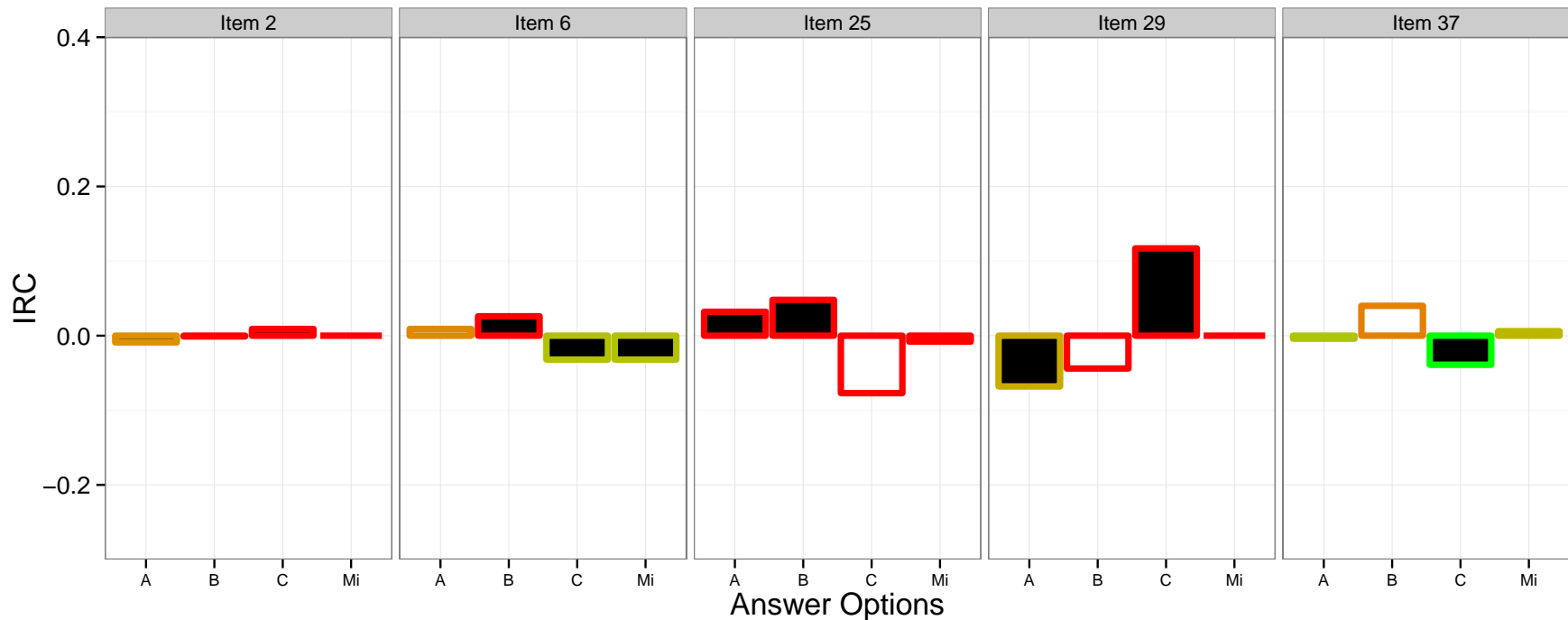


Item rest correlations per answer option

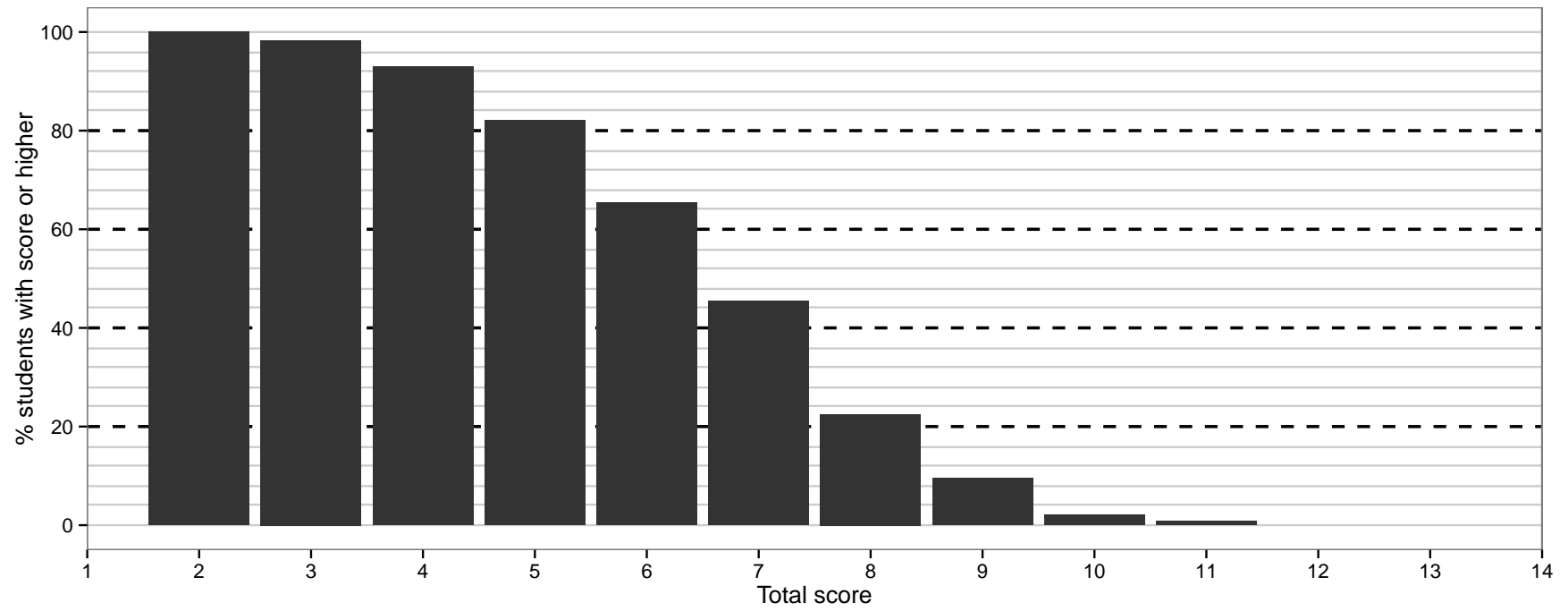
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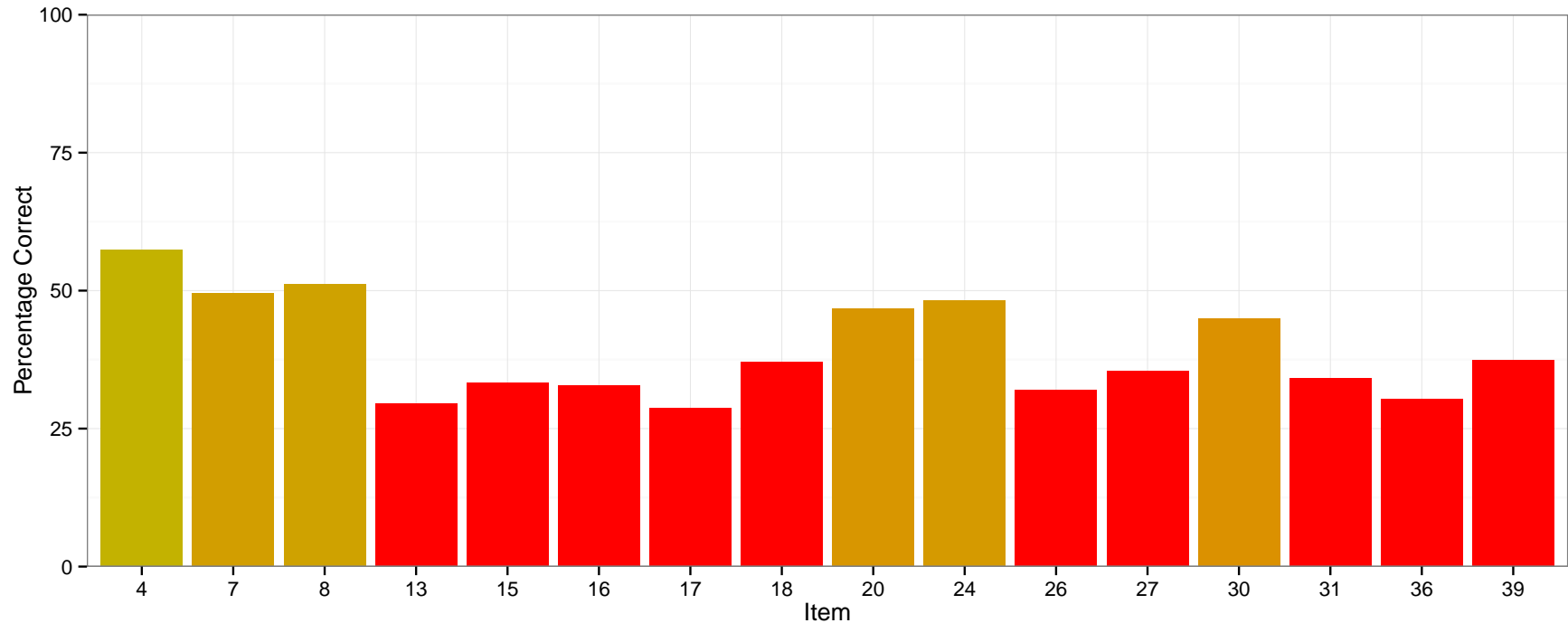
Cumulative Distribution



Category 3

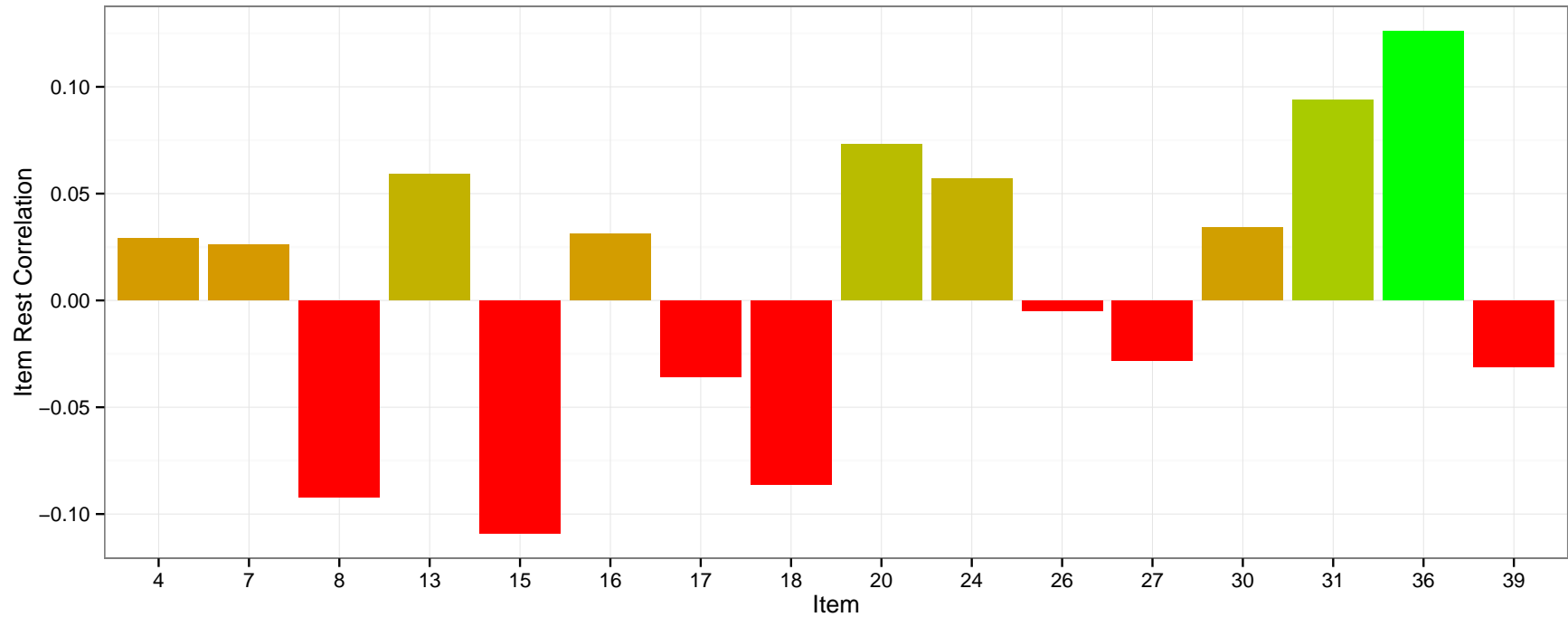
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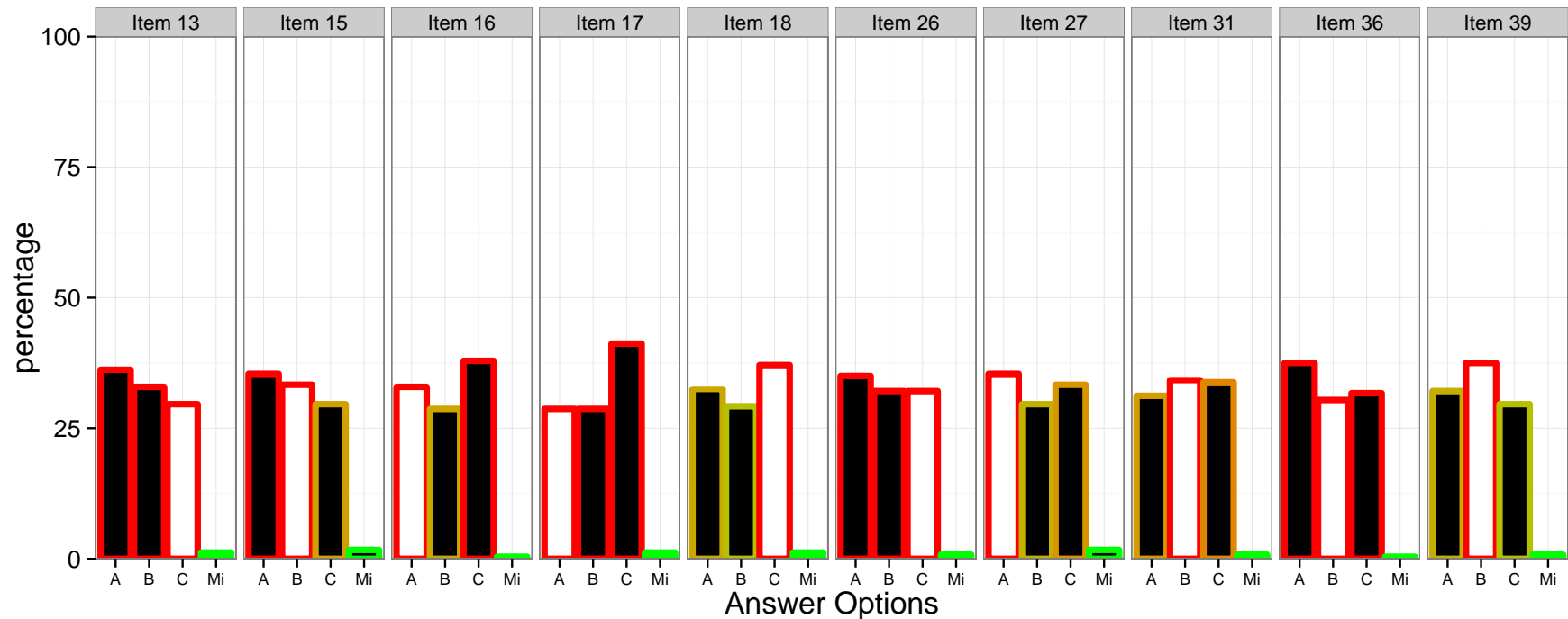


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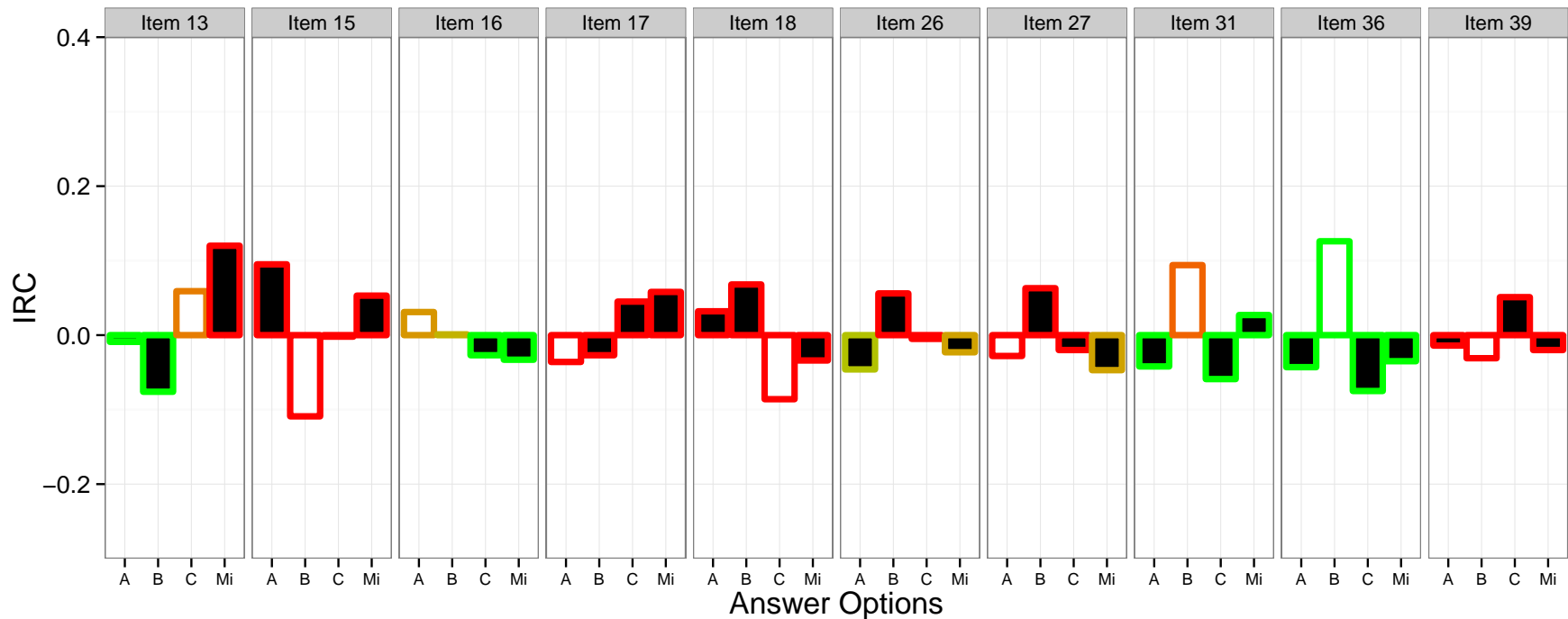


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Cumulative Distribution

