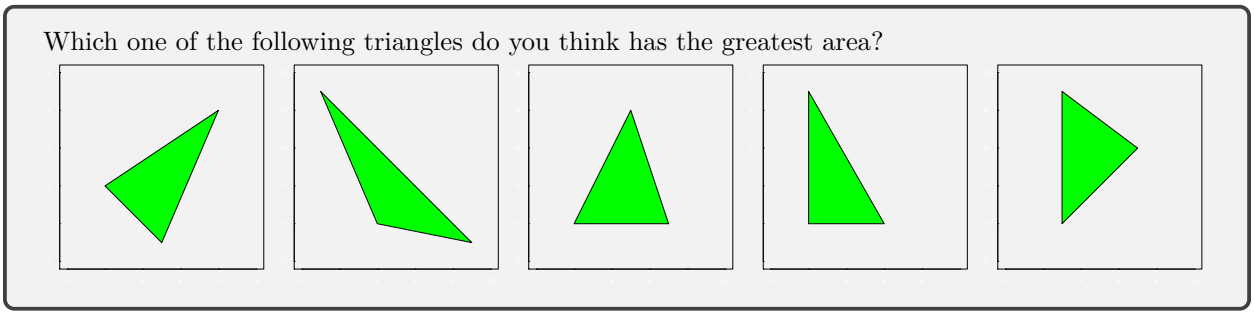
Description and choice data for the domain “Triangles”

Description of the choice domain 19, `Triangles`

The prompt question and the universe of five response options in the choice domain `Triangles` are as follows. The labels a, b, c, d and e were not displayed during the experiment and are indicated here to allow cross-referencing with data tables and visualizations below and results in the paper.

% Triangles

This domain is another perception example. The true areas are, respectively, 16, 15, 15, 14 and 14 units.



The following figure is a screenshot from the actual experiment, with one of the 26 possible menus for this domain.

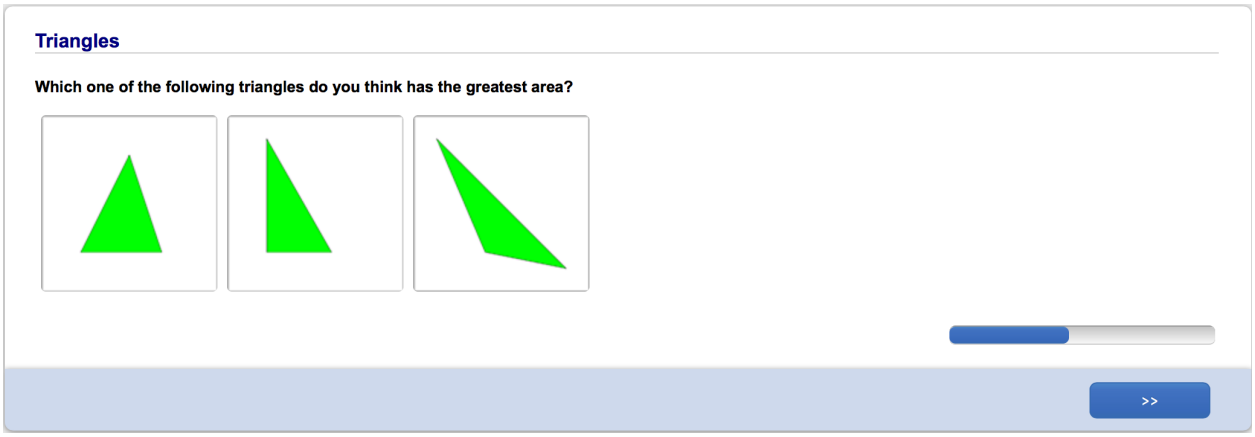


Figure 1: Screenshot for domain Triangles

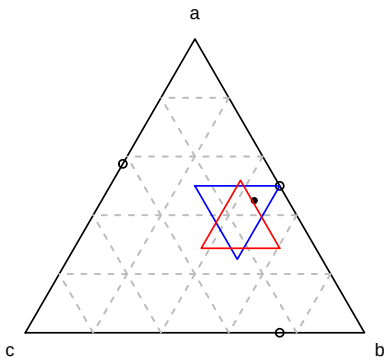
	Choice counts					Choice proportions				
Menu A	$N_A(a)$	$N_A(b)$	$N_A(c)$	$N_A(d)$	$N_A(e)$	$\hat{P}_A(a)$	$\hat{P}_A(b)$	$\hat{P}_A(c)$	$\hat{P}_A(d)$	$\hat{P}_A(e)$
$\{a,b\}$	20	20	-	-	-	0.500	0.500	-	-	-
$\{a,c\}$	23	-	17	-	-	0.575	-	0.425	-	-
$\{b,c\}$	-	30	10	-	-	-	0.750	0.250	-	-
$\{a,b,c\}$	18	18	4	-	-	0.450	0.450	0.100	-	-
$\{a,d\}$	27	-	-	13	-	0.675	-	-	0.325	-
$\{b,d\}$	-	31	-	9	-	-	0.775	-	0.225	-
$\{a,b,d\}$	13	22	-	6	-	0.317	0.537	-	0.146	-
$\{c,d\}$	-	-	26	14	-	-	-	0.650	0.350	-
$\{a,c,d\}$	22	-	7	11	-	0.550	-	0.175	0.275	-
$\{b,c,d\}$	-	29	9	2	-	-	0.725	0.225	0.050	-
$\{a,b,c,d\}$	18	16	3	3	-	0.450	0.400	0.075	0.075	-
$\{a,e\}$	23	-	-	-	17	0.575	-	-	-	0.425
$\{b,e\}$	-	17	-	-	23	-	0.425	-	-	0.575
$\{a,b,e\}$	19	12	-	-	9	0.475	0.300	-	-	0.225
$\{c,e\}$	-	-	12	-	28	-	-	0.300	-	0.700
$\{a,c,e\}$	19	-	7	-	14	0.475	-	0.175	-	0.350
$\{b,c,e\}$	-	14	6	-	20	-	0.350	0.150	-	0.500
$\{a,b,c,e\}$	18	12	2	-	8	0.450	0.300	0.050	-	0.200
$\{d,e\}$	-	-	-	16	24	-	-	-	0.400	0.600
$\{a,d,e\}$	13	-	-	3	24	0.325	-	-	0.075	0.600
$\{b,d,e\}$	-	13	-	4	23	-	0.325	-	0.100	0.575
$\{a,b,d,e\}$	14	11	-	5	11	0.341	0.268	-	0.122	0.268
$\{c,d,e\}$	-	-	5	5	30	-	-	0.125	0.125	0.750
$\{a,c,d,e\}$	16	-	4	0	20	0.400	-	0.100	0.000	0.500
$\{b,c,d,e\}$	-	18	5	2	15	-	0.450	0.125	0.050	0.375
$\{a,b,c,d,e\}$	16	17	0	0	7	0.400	0.425	0.000	0.000	0.175

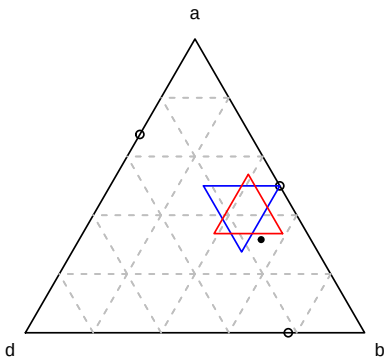
Table 1: Observed choice counts and proportions.

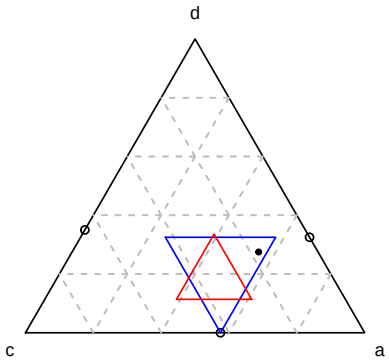
Choice data for domain 19, Triangles

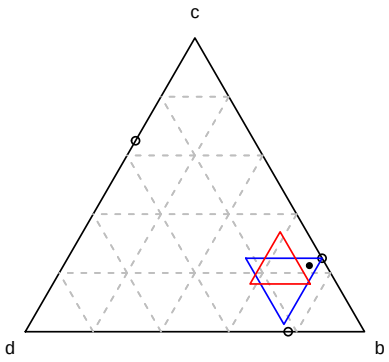
Table 1 shows choice counts and choice proportions for this choice domain. For each menu A and each object $x \in \{a,b,c,d,e\}$, $N_A(x)$ is the number of participants who chose object x from menu A and $\hat{P}_A(x)$ is the corresponding proportion of participants who chose x from A. When $x \notin A$, a dash is displayed.

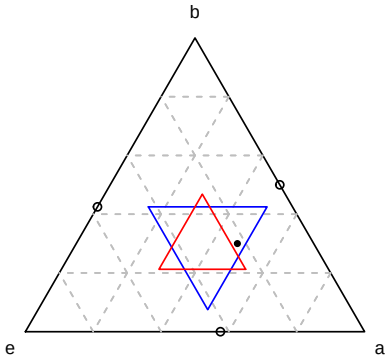
The following figure displays choice proportions for all doubleton and tripleton menus in Barycentric coordinates. See a full description of this graphical representation in the paper. Each panel shows choice proportions for all doubleton and tripleton menus of a different tripleton subset of $\{a,b,c,d,e\}$. The downward-pointed (blue) triangle shows the set of ternary choice proportions that are compatible with regularity and the three binary choice proportions, on the corresponding tripleton. The upward-pointed (red) triangle shows the set of ternary choice proportions compatible with the multiplicative inequality and the three binary choice proportions.

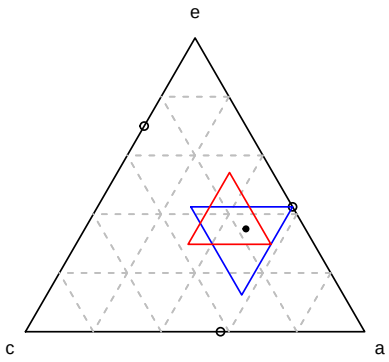

a
c
b

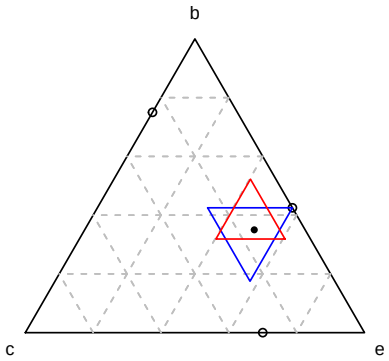

a
d
b

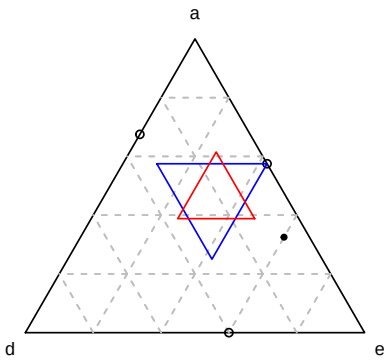

d
c
a

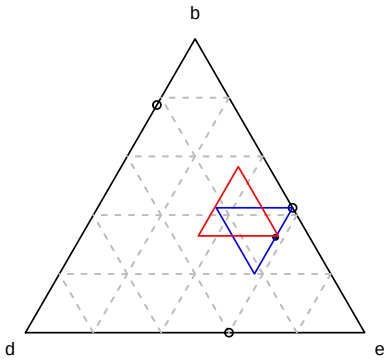

c
d
b

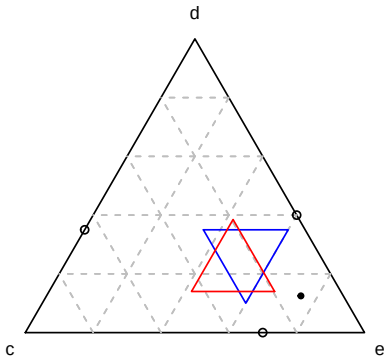

b
e
a


e
c
a


b
c
e


a
d
e


b
d
e


d
c
e