Determination of Member's Classification as Advanced (A) or Basic (B)

Our Club's main objective is to help its' members improve their photographic skills. The Club organizes various activities to achieve this goal such as: class room courses, photography field trips and monthly print/projected image competitions. The monthly competitions provide an avenue for members to have their work reviewed by an impartial judge. This judging allows a member to receive positive feedback there-by helping them improve.

In order for members to have an opportunity to compete against other members of similar skills, the club provides and Advanced (A) and Basic (B) levels of competition.

After each monthly competition the winning A and B images will be awarded points based on the categories being judged for that month. The awarded points for 1st, 2nd, 3rd and Honorable Mention are 6, 5, 4, and 3 points respectively. This monthly point information is then entered into the club website so that member points can be tracked throughout the year.

The A and B levels of club members for all categories is reset once a year after the first Monday in December. The President and the VP's of Prints and Projected images meet to determine the A and B members. They will use a spreadsheet generated from the website made up of all members submitting images (prints and projection) for the past year. *To determine the A's and B's they will use three criteria: a minimum number of entries for the year and an average number of points earned per entry.*

For example:

1. To qualify for an A level, a member must have submitted at least 10 images throughout the year.

2. A line will also be drawn at 1.6 average points per image submitted during the year. All members at or above the 1.6 line who have submitted at least 10 images will be A's; the rest of the members will be B's.

3. New members and members who are just competing for the first time will be placed in level B.

The above example shows how the criteria are used, but the limits can vary from year to year. To create a similar level of competition for the (A) and (B) levels, the members will be assigned to their level so that roughly half the expected entries will be contributed by (A) level and (B) level members. The number of expected entries can be biased somewhat so that there are more entries expected from the (A) level. This is due to the expectation that the number of (B) entries will increase slightly through the year due to new members and new competition participants.

To make this split, the average points per entry limit will be moved up or down adjusting the number of members in each group and the expected number of entries. The minimum number of entries for level (A) could also be adjusted, but should be around 10 so that the average points per entry calculations are accurate.

Members will be notified individually after this meeting by the club President informing them of their standing for the coming year.

To make the competition meaningful, there must be enough entries so contestants do not feel they placed by default. To this end, only categories with an average of around 20 entries or more per competition will be considered for dividing into (A) and (B) levels. Which categories to split will be selected by the Digital and Print committee VPs and voted on by the board.

A reality check of the individual level assignments will be made and the assignments adjusted for cases that have unusual circumstances (too few entries due to illness or work etc., very close to the limit). These adjustments will be made by the agreement of the print and digital VP's and the president.

A/B Split Calculation Example

The data can be put into a spreadsheet from the website in the following form. The data should be corrected for double entries due to series entries, a member that made too many entries in a month, or any other anomalies. Each competition entry should have a row in the table with the following information.

Competition Type	Author's Last Name	Author's First Name	Competition Date	Competition Level Name	Media Type	Title	Place	points

In Excel, the data can easily be analyzed by using pivot tables.

First, use a pivot table to determine which competitions could be split into A and B levels by totaling the number of entries for "Competition Type" and dividing by the number of competitions of that type that occurred during the year (either 3 or 12). The number of entries is the sum of the number of entries for both A and B levels for the year. Competitions that have an average of around 20 or more should be considered for having A and B levels. Example from 2011 data:

Count of Title		Number of Competitions	Avg Number of Entries
Competition Type	Total		
Creative Prints	16	3	5.3
Creative Projected Images	56	3	18.7
Journalism Prints	18	3	6.0
Journalism Projected Images	96	3	32.0
Monochrome Projected Images	125	12	10.4
Nature Prints	29	3	9.7
Nature Projected Images	80	3	26.7
Pictorial Prints - Color	172	12	14.3
Pictorial Prints - Monochrome	61	12	5.1
Pictorial/Color Projected Images	331	12	27.6
Travel Prints	15	3	5.0
Travel Projected Images	80	3	26.7
Grand Total	1079		

The "Number of competitions" and "Avg Number of Entries" columns were added. The number of competitions was typed in and the Average number of entries was set to = (Total/Number of competitions) for each Competition Type.

From the above data, it can be seen that none of the print categories have enough entries to split. All the projected categories except Monochrome could be split.

Next determine which members should be in the level A and B categories. Make the following pivot table from the data (the authors real names have been replaced with "a"

	Data	
Author's Last Name	Sum of points	Count of Title
a	0	2
b	13	27
c	89	44
d	4	1
e	37	9
f	29	32

Copy the pivot table to new columns to remove the links and make it easier to add new the new calculation columns shown below (don't copy the whole table, this will not remove the links, just copy the data part).

Add the "Avg Points per Entry" column with the calculation = (Sum of points/Count of Title).

Author's Last Name	Sum of points	Count of Title	Avg Points per Entry
a	0	2	0.0
b	13	27	0.5
c	89	44	2.0
d	4	1	4.0
e	37	9	4.1
f	29	32	0.9

The data has to be sorted twice. The first sort finds the participants with too few entries to be in level A, the second sort orders the remaining participants by “Avg Points per Entry”

First sort on the “Count of Title” column, smallest to largest.

Author's Last Name	Sum of points	Count of Title	Avg Points per Entry
d	4	1	4.0
a	0	2	0.0
l	6	3	2.0
o	3	6	0.5
e	37	9	4.1
m	6	9	0.7
h	29	12	2.4
x	9	12	0.8
p	13	14	0.9
k	7	15	0.5
v	33	16	2.1
g	50	17	2.9
y	21	17	1.2
q	16	21	0.8
j	79	24	3.3
i	28	26	1.1
b	13	27	0.5
s	56	27	2.1
t	45	28	1.6
u	24	29	0.8
r	76	30	2.5
f	29	32	0.9
n	68	41	1.7
c	89	44	2.0

Move the rows where the “Count of Title” is less than the minimum number (10 for this example, red line) to different columns

h	29	12	2.4
x	9	12	0.8
p	13	14	0.9
k	7	15	0.5
v	33	16	2.1
g	50	17	2.9
y	21	17	1.2
q	16	21	0.8
j	79	24	3.3
i	28	26	1.1
b	13	27	0.5
s	56	27	2.1
t	45	28	1.6
u	24	29	0.8
r	76	30	2.5
f	29	32	0.9
n	68	41	1.7
c	89	44	2.0

Sort the remaining rows by “Avg Points per Entry” column, smallest to largest.

k	7	15	0.5
b	13	27	0.5
x	9	12	0.8
q	16	21	0.8
u	24	29	0.8
f	29	32	0.9
p	13	14	0.9
i	28	26	1.1
y	21	17	1.2
t	45	28	1.6
n	68	41	1.7
c	89	44	2.0
v	33	16	2.1
s	56	27	2.1
h	29	12	2.4
r	76	30	2.5
g	50	17	2.9
j	79	24	3.3

Move the rows with too few entries back to the table

Author's Last Name	Sum of points	Count of Title	Avg Points per Entry
d	4	1	4.0
a	0	2	0.0
l	6	3	2.0
o	3	6	0.5
e	37	9	4.1
m	6	9	0.7
k	7	15	0.5
b	13	27	0.5
x	9	12	0.8
q	16	21	0.8
u	24	29	0.8
f	29	32	0.9
p	13	14	0.9
i	28	26	1.1
y	21	17	1.2
t	45	28	1.6
n	68	41	1.7
c	89	44	2.0
v	33	16	2.1
s	56	27	2.1
h	29	12	2.4
r	76	30	2.5
g	50	17	2.9
j	79	24	3.3

Add the “Total from Top Down” and “Total from Bottom up” columns.

Starting at the top of the table, the “Total from Top Down” for the first row is = “Count of Title”. For the second row to the end of the data it is = “Count of Title” for that row + “Total from Top Down” from the row above.

Starting at the bottom of the table, the “Total from Bottom Up” for the last row is = “Count of Title”. For the second to last row to the first row of data it is = “Count of Title” for that row + “Total from Bottom Up” from the row below.

The “Total Entries Top Down” equals the expected number of entries for the B level. The “Total Entries Bottom Up” equals the expected number of entries for the A level.

Draw the A/B dividing line where the number in the "Total Entries Top Down" is about equal to the "Total Entries Bottom Up" in the next row. This is marked in green here. The green cell equals the average number of points limit for the A level members. Every one above the green line is in the B level, those below the green line are in the A level.

Author's Last Name	Sum of points	Count of Title	Avg Points per Entry	Total from Top Down	Total from Bottom Up
d	4	1	4.0	1	462
a	0	2	0.0	3	461
l	6	3	2.0	6	459
o	3	6	0.5	12	456
e	37	9	4.1	21	450
m	6	9	0.7	30	441
k	7	15	0.5	45	432
b	13	27	0.5	72	417
x	9	12	0.8	84	390
q	16	21	0.8	105	378
u	24	29	0.8	134	357
f	29	32	0.9	166	328
p	13	14	0.9	180	296
i	28	26	1.1	206	282
y	21	17	1.2	223	256
t	45	28	1.6	251	239
n	68	41	1.7	292	211
c	89	44	2.0	336	170
v	33	16	2.1	352	126
s	56	27	2.1	379	110
h	29	12	2.4	391	83
r	76	30	2.5	421	71
g	50	17	2.9	438	41
j	79	24	3.3	462	24