Scoring System

Validation Data
Teams
FISAC-IRSF Rules 2017-2018

Svante Bengtson

Rev: March 16, 2018

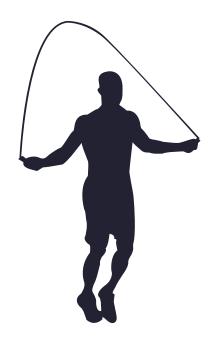# Contents

Designs from Vexels.com

Preface

While developing RopeScore I stumbled into one major problem: There were no test data to find.

In other words, there was no way to check that the scoring system was calculating correctly. As all raw data from competitions were destroyed a few weeks after the competitions, and for those competitions where the results were saved the results were often based on old rules, and lacked the interesting edge cases. On top of that, scoring systems all over the place had minor variations in their interpretations of the rules that made it impossible to compare the systems against each other.

Directly after the release of the 2018 rules i grabbed pen and paper and started writing down all edge cases i could think of. When the list had grew a bit i started carefully crafting raw scores to cover all those edge cases, as well as a normal case where nothing special happens.

The goals are simple: Cover as many edge cases as possible; Write the data in a way so that they can be punched into any scoring system that are compliant with the FISAC-IRSF rulebook and it will return the same final scores and ranks as the following test data.

Each freestyle covers one or more edge case, but only one per subscore. For example, you won't see a team where multiple edge cases for difficulty are gathered under the same team.

The Scoring System Validation Data is licensed under the Creative Commons Attribution 4.0 International License. To view a copy of this license, visit `http://creativecommons.org/licenses/by/4.0/` or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.

The Scoring System Validation Data is hand-crafted in Sweden, all scores and ranks are calculated by hand, once twice and trice, it's then compared against RopeScore, then recalculated once more.

The source of this document can be found and downloaded from `https://ropescore.com/testdata`. If you want to report errors in the data or suggest additional edge cases, please email `testdata@ropescore.com`

//Svante Bengtson

A   Single Rope Speed Relay

$$n = 3 \tag{1}$$

$$T = \frac{S_x + S_y}{2} \tag{2}$$

The two closest scores are averaged.

$$W = 5\left(F_{Start} + F_{switches}\right) \tag{3}$$

$$Y = n\left(T - W\right) \tag{4}$$

A – T001   All Same

S_1	350
S_2	350
S_3	350
False Start	0
False Switches	0

$$T = \frac{350 + 350}{2} \tag{5}$$

$$T = 350 \tag{6}$$

$$W = 5\left(0 + 0\right) \tag{7}$$

$$W = 0 \tag{8}$$

$$Y = 3\left(350 - 0\right) \tag{9}$$

$$Y = 1050 \tag{10}$$

T	W	Y
350	0	1050

A – T002   One High

S_1	350
S_2	350
S_3	355
False Start	0
False Switches	0

$$T = \frac{350 + 350}{2} \tag{11}$$

$$T = 350 \tag{12}$$

$$W = 5\,(0 + 0) \tag{13}$$

$$W = 0 \tag{14}$$

$$Y = 3\,(350 - 0) \tag{15}$$

$$Y = 1050 \tag{16}$$

T	W	Y
350	0	1050

A – T003   One Low

S_1	350
S_2	350
S_3	345
False Start	0
False Switches	0

$$
\begin{align}
T &= \frac{350 + 350}{2} \tag{17}\\
T &= 350 \tag{18}\\
W &= 5\,(0 + 0) \tag{19}\\
W &= 0 \tag{20}\\
Y &= 3\,(350 - 0) \tag{21}\\
Y &= 1050 \tag{22}
\end{align}
$$

T	W	Y
350	0	1050

A – T004   Equally Spaced

S_1	345
S_2	350
S_3	355
False Start	0
False Switches	0

$$
\begin{align}
T &= \frac{350 + 355}{2} \tag{23} \\
T &= 352.5 \tag{24} \\
W &= 5\,(0 + 0) \tag{25} \\
W &= 0 \tag{26} \\
Y &= 3\,(352.5 - 0) \tag{27} \\
Y &= 1057.5 \tag{28}
\end{align}
$$

Reskip Allowed

T	W	Y
352.5	0	1057.5

A – T005   One Higer Closest

S_1	340
S_2	350
S_3	355
False Start	0
False Switches	0

$$
\begin{align}
T &= \frac{350 + 355}{2} \tag{29}\\
T &= 352.5 \tag{30}\\
W &= 5\,(0 + 0) \tag{31}\\
W &= 0 \tag{32}\\
Y &= 3\,(352.5 - 0) \tag{33}\\
Y &= 1057.5 \tag{34}
\end{align}
$$

Reskip Allowed

T	W	Y
352.5	0	1057.5

A – T006   One Lower Closest

S_1	345
S_2	350
S_3	360
False Start	0
False Switches	0

$$T = \frac{345 + 350}{2} \tag{35}$$
$$T = 347.5 \tag{36}$$
$$W = 5\,(0 + 0) \tag{37}$$
$$W = 0 \tag{38}$$
$$Y = 3\,(347.5 - 0) \tag{39}$$
$$Y = 1042.5 \tag{40}$$

Reskip Allowed

T	W	Y
347.5	0	1042.5

A – T007   False Start

S_1	350
S_2	350
S_3	350
False Start	1
False Switches	0

$$
\begin{aligned}
T &= \frac{350 + 350}{2} & (41) \\
T &= 350 & (42) \\
W &= 5\,(1 + 0) & (43) \\
W &= 5 & (44) \\
Y &= 3\,(350 - 5) & (45) \\
Y &= 1035 & (46)
\end{aligned}
$$

T	W	Y
350	5	1035

A – T008   False Switch

S_1	350
S_2	350
S_3	350
False Start	0
False Switches	1

$$
\begin{align}
T &= \frac{350 + 350}{2} \tag{47}\\
T &= 350 \tag{48}\\
W &= 5\,(0 + 1) \tag{49}\\
W &= 5 \tag{50}\\
Y &= 3\,(350 - 5) \tag{51}\\
Y &= 1035 \tag{52}
\end{align}
$$

T	W	Y
350	5	1035

A – T009   Max Misses

S_1	350
S_2	350
S_3	350
False Start	1
False Switches	3

$$
\begin{align}
T &= \frac{350 + 350}{2} \tag{53} \\
T &= 350 \tag{54} \\
W &= 5\,(1 + 3) \tag{55} \\
W &= 20 \tag{56} \\
Y &= 3\,(350 - 20) \tag{57} \\
Y &= 990 \tag{58}
\end{align}
$$

T	W	Y
250	20	990

A – T010   Did Not Skip

T	W	Y

A – T011   Zero

S_1	20
S_2	20
S_3	20
False Start	1
False Switches	3

$$
\begin{aligned}
T &= \frac{20 + 20}{2} & (59) \\
T &= 20 & (60) \\
W &= 5\,(1 + 3) & (61) \\
W &= 20 & (62) \\
Y &= 3\,(20 - 20) & (63) \\
Y &= 0 & (64)
\end{aligned}
$$

T	W	Y
20	20	0

A – T012　　Negative

S_1	10
S_2	10
S_3	10
False Start	1
False Switches	3

$$T = \frac{10 + 10}{2} \tag{65}$$
$$T = 10 \tag{66}$$
$$W = 5\,(1 + 3) \tag{67}$$
$$W = 20 \tag{68}$$
$$Y = 3\,(10 - 20) \tag{69}$$
$$Y = -30 \tag{70}$$

T	W	Y
10	20	-30

Event Ranks

Team	Score	Rank
T001	1050	3
T002	1050	3
T003	1050	3
T004	1057.5	1
T005	1057.5	1
T006	1042.5	6
T007	1035	7
T008	1035	7
T009	990	9
T010		
T011	0	10
T012	−30	11

B Double Dutch Speed Relay

$$n = 2 \tag{71}$$

$$T = \frac{S_x + S_y}{2} \tag{72}$$

The two closest scores are averaged.

$$W = 5\left(F_{Start} + F_{switches}\right) \tag{73}$$

$$Y = n\left(T - W\right) \tag{74}$$

B – T001 All Same

S_1	500
S_2	500
S_3	500
False Start	0
False Switches	0

$$T = \frac{500 + 500}{2} \tag{75}$$

$$T = 500 \tag{76}$$

$$W = 5\left(0 + 0\right) \tag{77}$$

$$W = 0 \tag{78}$$

$$Y = 2\left(500 - 0\right) \tag{79}$$

$$Y = 1000 \tag{80}$$

T	W	Y
500	0	1000

B – T002   Did Not Skip

T	W	Y

B – T003   One High

S_1	500
S_2	500
S_3	505
False Start	0
False Switches	0

$$T = \frac{500 + 500}{2} \tag{81}$$

$$T = 500 \tag{82}$$

$$W = 5\,(0 + 0) \tag{83}$$

$$W = 0 \tag{84}$$

$$Y = 2\,(500 - 0) \tag{85}$$

$$Y = 1000 \tag{86}$$

T	W	Y
500	0	1000

B – T004   One Low

S_1	500
S_2	500
S_3	495
False Start	0
False Switches	0

$$T = \frac{500 + 500}{2} \tag{87}$$

$$T = 500 \tag{88}$$

$$W = 5\,(0 + 0) \tag{89}$$

$$W = 0 \tag{90}$$

$$Y = 2\,(500 - 0) \tag{91}$$

$$Y = 1000 \tag{92}$$

T	W	Y
500	0	1000

B – T005   Equally Spaced

S_1	495
S_2	500
S_3	505
False Start	0
False Switches	0

$$
\begin{aligned}
T &= \frac{500 + 505}{2} & (93) \\
T &= 502.5 & (94) \\
W &= 5\,(0 + 0) & (95) \\
W &= 0 & (96) \\
Y &= 2\,(502.5 - 0) & (97) \\
Y &= 1005 & (98)
\end{aligned}
$$

Reskip Allowed

T	W	Y
502.5	0	1005

B – T006   One Higer Closest

S_1	490
S_2	500
S_3	505
False Start	0
False Switches	0

$$T = \frac{500 + 505}{2} \tag{99}$$

$$T = 502.5 \tag{100}$$

$$W = 5(0 + 0) \tag{101}$$

$$W = 0 \tag{102}$$

$$Y = 2(502.5 - 0) \tag{103}$$

$$Y = 1005 \tag{104}$$

Reskip Allowed

T	W	Y
502.5	0	1005

B – T007   One Lower Closest

S_1	495
S_2	500
S_3	510
False Start	0
False Switches	0

$$
\begin{align}
T &= \frac{495 + 500}{2} \tag{105} \\
T &= 497.5 \tag{106} \\
W &= 5\,(0 + 0) \tag{107} \\
W &= 0 \tag{108} \\
Y &= 2\,(497.5 - 0) \tag{109} \\
Y &= 995 \tag{110}
\end{align}
$$

Reskip Allowed

T	W	Y
497.5	0	995

B – T008 False Start

S_1	500
S_2	500
S_3	500
False Start	1
False Switches	0

$$
\begin{align}
T &= \frac{500 + 500}{2} \tag{111}\\
T &= 500 \tag{112}\\
W &= 5\,(1 + 0) \tag{113}\\
W &= 5 \tag{114}\\
Y &= 2\,(500 - 5) \tag{115}\\
Y &= 990 \tag{116}
\end{align}
$$

T	W	Y
500	5	990

B – T009   False Switch

S_1	500
S_2	500
S_3	500
False Start	0
False Switches	1

$$
\begin{align}
T &= \frac{500 + 500}{2} \tag{117} \\
T &= 500 \tag{118} \\
W &= 5\,(0 + 1) \tag{119} \\
W &= 5 \tag{120} \\
Y &= 2\,(500 - 5) \tag{121} \\
Y &= 990 \tag{122}
\end{align}
$$

T	W	Y
500	5	990

B – T010 Max Misses

S_1	500
S_2	500
S_3	500
False Start	1
False Switches	3

$$T = \frac{500 + 500}{2} \tag{123}$$

$$T = 500 \tag{124}$$

$$W = 5\,(1 + 3) \tag{125}$$

$$W = 20 \tag{126}$$

$$Y = 2\,(500 - 20) \tag{127}$$

$$Y = 960 \tag{128}$$

T	W	Y
500	20	960

B – T011   Zero

S_1	20
S_2	20
S_3	20
False Start	1
False Switches	3

$$T = \frac{20 + 20}{2} \tag{129}$$

$$T = 20 \tag{130}$$

$$W = 5\,(1 + 3) \tag{131}$$

$$W = 20 \tag{132}$$

$$Y = 2\,(20 - 20) \tag{133}$$

$$Y = 0 \tag{134}$$

T	W	Y
20	20	0

B – T012   Negative

S_1	10
S_2	10
S_3	10
False Start	1
False Switches	3

$$
\begin{align}
T &= \frac{10 + 10}{2} \tag{135} \\
T &= 10 \tag{136} \\
W &= 5\,(1 + 3) \tag{137} \\
W &= 20 \tag{138} \\
Y &= 2\,(10 - 20) \tag{139} \\
Y &= -20 \tag{140}
\end{align}
$$

T	W	Y
10	20	−20

Event Ranks

Team	Score	Rank
T001	1000	3
T002		
T003	1000	3
T004	1000	3
T005	1005	1
T006	1005	1
T007	995	6
T008	990	7
T009	990	7
T010	960	9
T011	0	10
T012	−20	11

C Single Rope Pair Freestyle

$$round\,(x) = \frac{\lceil 10000x \rceil}{10000} \tag{141}$$

Presentation

The following abbreviations will be used

MoB	Music On Beat
UoM	Use of Music
Mov	Movement
FBE	Form of Body and Execution
Ori	Originality
OIm	Overall Impression

$$S_{A_x} = 0.5\left(A_{x_{MoB}} + A_{x_{UoM}}\right) + 0.5A_{x_{Mov}} + A_{x_{FBE}} + A_{x_{Ori}} + 0.5A_{x_{OIm}} \tag{142}$$

$$T_2 = round\left(5\frac{S_{A_a} + S_{A_b} + S_{A_c}}{3}\right) \tag{143}$$

Where the highest and lowest of the five presentation scores (S_{A_x}) are dropped before averaging the remaining three.

Required Elements

The following abbreviations will be used

Mu	Multiple sets
Gy	Gymnastics
Po	Power
Sp	Speed Dances
Re	Releases
Wr	Wraps
In	Pairs Interactions

$$S_{B_x} = B_{x_{Mu}} + B_{x_{Gy}} + B_{x_{Po}} + B_{x_{Sp}} + B_{x_{Re}} + B_{x_{Wr}} + B_{x_{In}} \tag{144}$$

$$\left(S_{B_x} > 16 \;\rightarrow\; S_{B_x} = 16\right) \tag{145}$$

$$\left(B_{x_{In}} < 2 \;\rightarrow\; S_{B_x} = S_{B_x} - \left(B_{x_{In}} - 2\right)\right) \tag{146}$$

$$T_3 = round\left(\frac{50}{16} \times \frac{S_{B_1} + S_{B_2} + S_{B_3}}{3}\right) \tag{147}$$

$$\left(T_3 > 50 \;\rightarrow\; T_3 = 50\right) \tag{148}$$

Note that the deductions specified in equation (146) are not explicitly specified in the Judging Manual. However, it's the most common practice and was required for the scoring system used at the World Rope Skipping Championchips 2016 in Malmö, Sweden.

Difficulty

$$l(x) = \frac{3.5}{1.5^{5-x}} \tag{149}$$

$$S_{D_{x_{Ly}}} = D_{x_{Ly}} \times l(y) \tag{150}$$

$$(S_{D_{x_{L4}}} > 30 \rightarrow S_{D_{x_{L3}}} = S_{D_{x_{L3}}} + (S_{D_{x_{L4}}} - 30)) \tag{151}$$

$$(S_{D_{x_{L4}}} > 30 \rightarrow S_{D_{x_{L4}}} = 30) \tag{152}$$

$$(S_{D_{x_{L3}}} > 20 \rightarrow S_{D_{x_{L2}}} = S_{D_{x_{L2}}} + (S_{D_{x_{L3}}} - 20)\&S_{D_{x_{L3}}} = 20) \tag{153}$$

$$(S_{D_{x_{L3}}} > 20 \rightarrow S_{D_{x_{L3}}} = 20) \tag{154}$$

$$(S_{D_{x_{L2}}} > 10 \rightarrow S_{D_{x_{L2}}} = 10) \tag{155}$$

$$S_{D_x} = S_{D_{x_{L2}}} + S_{D_{x_{L3}}} + S_{D_{x_{L4}}} + S_{D_{x_{L5}}} + S_{D_{x_{L6}}} \tag{156}$$

$$T_1 = round\left(2.5\frac{S_{D_a} + S_{D_b} + S_{D_c}}{3}\right) \tag{157}$$

Where the highest and lowest of the five difficulty scores (S_{D_x}) are dropped before averaging the remaining three.

Creativity

$$T_4 = round\,(T_3 + T_2) \tag{158}$$

Misses

$$M_{HJ} = 12.5HJ_{Minor} + 25HJ_{Major} \tag{159}$$

$$M_{A_x} = 12.5A_{x_{Minor}} + 25A_{x_{Major}} \tag{160}$$

$$M_{B_x} = 12.5B_{x_{Minor}} + 25B_{x_{Major}} \tag{161}$$

$$T_5 = round\left(\frac{M_a + M_b + M_c + M_d + M_e + M_f + M_g}{7} + 12.5HJ_{Space} + 25HJ_{Time}\right) \tag{162}$$

Where the highest and lowest of the nine difficulty scores (M_x) are dropped before averaging the remaining seven.

Final

$$R_{Diff} = round\left(T_1 - \frac{T_5}{2}\right) \tag{163}$$

$$R_{Crea} = round\left(T_4 - \frac{T_5}{2}\right) \tag{164}$$

$$R = round\,(T_1 + T_4 - T_5) \tag{165}$$

C – T001   Nothing Special

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	5	5	5	5	5	5
A_2	5	5	5	5	5	5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	5	5	5	5	5	5

$$S_{A_1} = 20 \tag{166}$$
$$S_{A_2} = 20 \tag{167}$$
$$S_{A_3} = 20 \tag{168}$$
$$S_{A_4} = 20 \tag{169}$$
$$S_{A_5} = 20 \tag{170}$$
$$T_2 = 5\frac{20 + 20 + 20}{3} \tag{171}$$
$$T_2 = 100 \tag{172}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	2	2	2	2	2	2	2
B_2	2	2	2	2	2	2	2
B_3	2	2	2	2	2	2	2

$$S_{B_1} = 14 \tag{173}$$
$$S_{B_2} = 14 \tag{174}$$
$$S_{B_3} = 14 \tag{175}$$
$$T_3 = \frac{50}{16} \times \frac{14 + 14 + 14}{3} \tag{176}$$
$$T_3 = 43.75 \tag{177}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	5	5	5	5	5
D_3	5	5	5	5	5
D_4	5	5	5	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{178}$$

$$S_{D_2} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{179}$$

$$S_{D_3} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{180}$$

$$S_{D_4} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{181}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{182}$$

$$T_1 = 2.5\frac{68.3797 + 68.3797 + 68.3797}{3} \tag{183}$$

$$T_1 = 170.9493 \tag{184}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	1	1	1	1
A_1	1	1		
A_2	1	1		
A_3	1	1		
A_4	1	1		
A_5	1	1		
B_1	1	1		
B_2	1	1		
B_3	1	1		

$$M_H J = 37.5 \tag{185}$$
$$M_{A_1} = 37.5 \tag{186}$$
$$M_{A_2} = 37.5 \tag{187}$$
$$M_{A_3} = 37.5 \tag{188}$$
$$M_{A_4} = 37.5 \tag{189}$$
$$M_{A_5} = 37.5 \tag{190}$$
$$M_{B_1} = 37.5 \tag{191}$$
$$M_{B_2} = 37.5 \tag{192}$$
$$M_{B_3} = 37.5 \tag{193}$$
$$T_5 = \frac{37.5 + 37.5 + 37.5 + 37.5 + 37.5 + 37.5 + 37.5}{7} + 12.5 + 25 \tag{194}$$
$$T_5 = 75 \tag{195}$$

T_1	T_2	T_3	T_4	T_5
170.9493	100	43.75	143.75	75

R_{Diff}	R_{Crea}	R
133.4493	106.25	239.6993

C – T002 No interactions, L3 cap, only minor misses

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	5	5	5	5	5	5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	0	0	0	0	0	0

$$S_{A_1} = 40 \tag{196}$$
$$S_{A_2} = 20 \tag{197}$$
$$S_{A_3} = 20 \tag{198}$$
$$S_{A_4} = 20 \tag{199}$$
$$S_{A_5} = 0 \tag{200}$$
$$T_2 = 5\frac{20 + 20 + 20}{3} \tag{201}$$
$$T_2 = 100 \tag{202}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	2	2	2	2	2	2	0
B_2	2	2	2	2	2	2	0
B_3	2	2	2	2	2	2	0

$$S_{B_1} = 12 - 2 \tag{203}$$
$$S_{B_2} = 12 - 2 \tag{204}$$
$$S_{B_3} = 12 - 2 \tag{205}$$
$$T_3 = \frac{50}{16} \times \frac{10 + 10 + 10}{3} \tag{206}$$
$$T_3 = 31.25 \tag{207}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	5	15	5	5	5
D_3	5	15	5	5	5
D_4	5	15	5	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 & = & 5.1852 \\ L3 & = & 7.7778 \\ L4 & = & 11.6667 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{cases} = 68.3797 \tag{208}$$

$$S_{D_2} = \begin{cases} L2 & = & 8.5185 \\ L3 & = & 20 \\ L4 & = & 11.6667 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{cases} = 83.9352 \tag{209}$$

$$S_{D_3} = \begin{cases} L2 & = & 8.5185 \\ L3 & = & 20 \\ L4 & = & 11.6667 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{cases} = 83.9352 \tag{210}$$

$$S_{D_4} = \begin{cases} L2 & = & 8.5185 \\ L3 & = & 20 \\ L4 & = & 11.6667 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{cases} = 83.9352 \tag{211}$$

$$S_{D_5} = \begin{cases} L2 & = & 5.1852 \\ L3 & = & 7.7778 \\ L4 & = & 11.6667 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{cases} = 68.3797 \tag{212}$$

$$T_1 = 2.5\frac{68.3797 + 83.9352 + 83.9352}{3} \tag{213}$$

$$T_1 = 196.8751 \tag{214}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	4	0	0	0
A_1	3	0		
A_2	2	0		
A_3	1	0		
A_4	1	0		
A_5	1	0		
B_1	1	0		
B_2	1	0		
B_3	1	0		

$$M_H J = 50 \tag{215}$$

$$M_{A_1} = 37.5 \tag{216}$$

$$M_{A_2} = 25 \tag{217}$$

$$M_{A_3} = 12.5 \tag{218}$$

$$M_{A_4} = 12.5 \tag{219}$$

$$M_{A_5} = 12.5 \tag{220}$$

$$M_{B_1} = 12.5 \tag{221}$$

$$M_{B_2} = 12.5 \tag{222}$$

$$M_{B_3} = 12.5 \tag{223}$$

$$T_5 = \frac{37.5 + 25 + 12.5 + 12.5 + 12.5 + 12.5 + 12.5}{7} + 0 + 0 \tag{224}$$

$$T_5 = 17.8571 \tag{225}$$

T_1	T_2	T_3	T_4	T_5
196.8751	100	31.25	131.25	17.8571

R_{Diff}		R_{Crea}		R	
187.9465		122.3215		310.268	

C – T003 One interactions, L3 cap capping L2, only major misses

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	0	0	0	0	0	0

$$S_{A_1} = 40 \tag{226}$$
$$S_{A_2} = 30 \tag{227}$$
$$S_{A_3} = 20 \tag{228}$$
$$S_{A_4} = 20 \tag{229}$$
$$S_{A_5} = 0 \tag{230}$$
$$T_2 = 5\frac{30 + 20 + 20}{3} \tag{231}$$
$$T_2 = 116.6667 \tag{232}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	2	2	2	2	2	2	1
B_2	2	2	2	2	2	2	1
B_3	2	2	2	2	2	2	1

$$S_{B_1} = 13 - 1 \tag{233}$$
$$S_{B_2} = 13 - 1 \tag{234}$$
$$S_{B_3} = 13 - 1 \tag{235}$$
$$T_3 = \frac{50}{16} \times \frac{12 + 12 + 12}{3} \tag{236}$$
$$T_3 = 37.5 \tag{237}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	7	15	5	5	5
D_3	7	15	5	5	5
D_4	7	15	5	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{238}$$

$$S_{D_2} = \begin{cases} L2 &=& 10 \\ L3 &=& 20.0 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 85.4167 \tag{239}$$

$$S_{D_3} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 85.4167 \tag{240}$$

$$S_{D_4} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 85.4167 \tag{241}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{242}$$

$$T_1 = 2.5\frac{68.3797 + 85.4167 + 85.4167}{3} \tag{243}$$

$$T_1 = 199.3443 \tag{244}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	4	0	0
A_1	0	3		
A_2	0	2		
A_3	0	1		
A_4	0	1		
A_5	0	1		
B_1	0	1		
B_2	0	1		
B_3	0	0		

$$M_H J = 100 \tag{245}$$
$$M_{A_1} = 75 \tag{246}$$
$$M_{A_2} = 50 \tag{247}$$
$$M_{A_3} = 25 \tag{248}$$
$$M_{A_4} = 25 \tag{249}$$
$$M_{A_5} = 25 \tag{250}$$
$$M_{B_1} = 25 \tag{251}$$
$$M_{B_2} = 25 \tag{252}$$
$$M_{B_3} = 25 \tag{253}$$
$$T_5 = \frac{75 + 50 + 25 + 25 + 25 + 25 + 25}{7} + 0 + 0 \tag{254}$$
$$T_5 = 35.7143 \tag{255}$$

T_1	T_2	T_3	T_4	T_5
199.3443	116.6667	37.5	154.1667	35.7143

R_{Diff}		R_{Crea}		R	
181.4872		136.3096		317.7967	

C – T004   Three interactions, L3 cap to capped L2, only Time miss

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	1	2	3	4	5	6

$$S_{A_1} = 40 \tag{256}$$
$$S_{A_2} = 30 \tag{257}$$
$$S_{A_3} = 20 \tag{258}$$
$$S_{A_4} = 20 \tag{259}$$
$$S_{A_5} = 15.75 \tag{260}$$
$$T_2 = 5\frac{30 + 20 + 20}{3} \tag{261}$$
$$T_2 = 116.6667 \tag{262}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	2	2	2	2	2	2	3
B_2	2	2	2	2	2	2	3
B_3	2	2	2	2	2	2	3

$$S_{B_1} = 15 \tag{263}$$
$$S_{B_2} = 15 \tag{264}$$
$$S_{B_3} = 15 \tag{265}$$
$$T_3 = \frac{50}{16} \times \frac{15 + 15 + 15}{3} \tag{266}$$
$$T_3 = 46.875 \tag{267}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	10	15	5	5	5
D_3	10	15	5	5	5
D_4	10	15	5	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{268}$$

$$S_{D_2} = \begin{cases} L2 &=& 10 \\ L3 &=& 20.0 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 85.4167 \tag{269}$$

$$S_{D_3} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 85.4167 \tag{270}$$

$$S_{D_4} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 85.4167 \tag{271}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{272}$$

$$T_1 = 2.5 \frac{68.3797 + 85.4167 + 85.4167}{3} \tag{273}$$

$$T_1 = 199.3443 \tag{274}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	0	1	0
A_1	0	0		
A_2	0	0		
A_3	0	0		
A_4	0	0		
A_5	0	0		
B_1	0	0		
B_2	0	0		
B_3	0	0		

$$M_H J = 0 \tag{275}$$
$$M_{A_1} = 0 \tag{276}$$
$$M_{A_2} = 0 \tag{277}$$
$$M_{A_3} = 0 \tag{278}$$
$$M_{A_4} = 0 \tag{279}$$
$$M_{A_5} = 0 \tag{280}$$
$$M_{B_1} = 0 \tag{281}$$
$$M_{B_2} = 0 \tag{282}$$
$$M_{B_3} = 0 \tag{283}$$
$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 25 \tag{284}$$
$$T_5 = 25 \tag{285}$$

T_1	T_2	T_3	T_4	T_5
199.3443	116.6667	46.875	163.5417	25

R_{Diff}	R_{Crea}	R
186.8443	151.0471	337.8914

C – T005 More than 16 Required Elements, L4 cap, only Space miss

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	6	5	4	3	2	1
A_5	1	2	3	4	5	6

$$S_{A_1} = 40 \tag{286}$$
$$S_{A_2} = 30 \tag{287}$$
$$S_{A_3} = 20 \tag{288}$$
$$S_{A_4} = 13 \tag{289}$$
$$S_{A_5} = 15 \tag{290}$$
$$T_2 = 5\frac{30 + 20 + 15}{3} \tag{291}$$
$$T_2 = 108.3333 \tag{292}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	3	3	2	2	2	2	3
B_2	3	3	2	2	2	2	3
B_3	3	3	2	2	2	2	3

$$S_{B_1} = 17 \tag{293}$$
$$S_{B_2} = 17 \tag{294}$$
$$S_{B_3} = 17 \tag{295}$$
$$T_3 = \frac{50}{16} \times \frac{16 + 16 + 16}{3} \tag{296}$$
$$T_3 = 50 \tag{297}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	5	5	15	5	5
D_3	5	5	15	5	5
D_4	5	5	15	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 & = & 5.1852 \\ L3 & = & 7.7778 \\ L4 & = & 11.6667 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{cases} = 68.3797 \tag{298}$$

$$S_{D_2} = \begin{cases} L2 & = & 5.1852 \\ L3 & = & 12.7778 \\ L4 & = & 30 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{cases} = 91.713 \tag{299}$$

$$S_{D_3} = \begin{cases} L2 & = & 5.1852 \\ L3 & = & 12.7778 \\ L4 & = & 30 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{cases} = 91.713 \tag{300}$$

$$S_{D_4} = \begin{cases} L2 & = & 5.1852 \\ L3 & = & 12.7778 \\ L4 & = & 30 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{cases} = 91.713 \tag{301}$$

$$S_{D_5} = \begin{cases} L2 & = & 5.1852 \\ L3 & = & 7.7778 \\ L4 & = & 11.6667 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{cases} = 68.3797 \tag{302}$$

$$T_1 = 2.5\frac{68.3797 + 91.713 + 91.713}{3} \tag{303}$$

$$T_1 = 209.8381 \tag{304}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	0	0	1
A_1	0	0		
A_2	0	0		
A_3	0	0		
A_4	0	0		
A_5	0	0		
B_1	0	0		
B_2	0	0		
B_3	0	0		

$$
\begin{align}
M_H J &= 0 \tag{305} \\
M_{A_1} &= 0 \tag{306} \\
M_{A_2} &= 0 \tag{307} \\
M_{A_3} &= 0 \tag{308} \\
M_{A_4} &= 0 \tag{309} \\
M_{A_5} &= 0 \tag{310} \\
M_{B_1} &= 0 \tag{311} \\
M_{B_2} &= 0 \tag{312} \\
M_{B_3} &= 0 \tag{313} \\
T_5 &= \frac{0+0+0+0+0+0+0}{7} + 12.5 + 0 \tag{314} \\
T_5 &= 12.5 \tag{315}
\end{align}
$$

T_1	T_2	T_3	T_4	T_5
209.8381	108.3333	50	158.3333	12.5

R_{Diff}		R_{Crea}		R
203.5881		152.0833		355.6714

C – T006 L4 cap capping L3, no misses

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	1	2	3	2	1	0
A_4	6	5	4	3	2	1
A_5	1	2	3	4	5	6

$$S_{A_1} = 40 \tag{316}$$
$$S_{A_2} = 30 \tag{317}$$
$$S_{A_3} = 6 \tag{318}$$
$$S_{A_4} = 13 \tag{319}$$
$$S_{A_5} = 15 \tag{320}$$
$$T_2 = 5\frac{30 + 15 + 13}{3} \tag{321}$$
$$T_2 = 96.6667 \tag{322}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	3	3	2	2	2	0	3
B_2	3	2	3	2	0	2	3
B_3	3	2	2	3	2	2	0

$$S_{B_1} = 15 \tag{323}$$
$$S_{B_2} = 15 \tag{324}$$
$$S_{B_3} = 14 - 2 \tag{325}$$
$$T_3 = \frac{50}{16} \times \frac{15 + 15 + 12}{3} \tag{326}$$
$$T_3 = 43.75 \tag{327}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	5	10	15	5	5
D_3	5	10	15	5	5
D_4	5	10	15	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{328}$$

$$S_{D_2} = \begin{cases} L2 &=& 5.7408 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 99.4908 \tag{329}$$

$$S_{D_3} = \begin{cases} L2 &=& 5.7408 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 99.4908 \tag{330}$$

$$S_{D_4} = \begin{cases} L2 &=& 5.7408 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 99.4908 \tag{331}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{332}$$

$$T_1 = 2.5\frac{68.3797 + 99.4908 + 99.4908}{3} \tag{333}$$

$$T_1 = 222.8011 \tag{334}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	0	0	0
A_1	0	0		
A_2	0	0		
A_3	0	0		
A_4	0	0		
A_5	0	0		
B_1	0	0		
B_2	0	0		
B_3	0	0		

$$M_H J = 0 \tag{335}$$
$$M_{A_1} = 0 \tag{336}$$
$$M_{A_2} = 0 \tag{337}$$
$$M_{A_3} = 0 \tag{338}$$
$$M_{A_4} = 0 \tag{339}$$
$$M_{A_5} = 0 \tag{340}$$
$$M_{B_1} = 0 \tag{341}$$
$$M_{B_2} = 0 \tag{342}$$
$$M_{B_3} = 0 \tag{343}$$
$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 0 \tag{344}$$
$$T_5 = 0 \tag{345}$$

T_1	T_2	T_3	T_4	T_5
222.8011	96.6667	43.75	140.4167	0

R_{Diff}		R_{Crea}		R
222.8011		140.4167		363.2178

C – T007   L4 cap capping L3 capping L2, negative score, more than 500 in deductions

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	1	2	3	2	1	0
A_4	6	5	4	3	2	1
A_5	1	2	3	4	5	6

$$S_{A_1} = 40 \tag{346}$$
$$S_{A_2} = 30 \tag{347}$$
$$S_{A_3} = 6 \tag{348}$$
$$S_{A_4} = 13 \tag{349}$$
$$S_{A_5} = 15 \tag{350}$$
$$T_2 = 5\frac{30 + 15 + 13}{3} \tag{351}$$
$$T_2 = 96.6667 \tag{352}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	3	3	2	2	2	0	3
B_2	3	2	3	2	0	2	3
B_3	3	2	2	3	2	2	0

$$S_{B_1} = 15 \tag{353}$$
$$S_{B_2} = 15 \tag{354}$$
$$S_{B_3} = 14 - 2 \tag{355}$$
$$T_3 = \frac{50}{16} \times \frac{15 + 15 + 12}{3} \tag{356}$$
$$T_3 = 43.75 \tag{357}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	9	11	15	5	5
D_3	9	11	15	5	5
D_4	9	11	15	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \qquad (358)$$

$$S_{D_2} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 103.75 \qquad (359)$$

$$S_{D_3} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 103.75 \qquad (360)$$

$$S_{D_4} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 103.75 \qquad (361)$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \qquad (362)$$

$$T_1 = 2.5\frac{68.3797 + 103.75 + 103.75}{3} \qquad (363)$$

$$T_1 = 229.8998 \qquad (364)$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	10	11	1	6
A_1	10	12		
A_2	10	12		
A_3	10	12		
A_4	10	12		
A_5	10	12		
B_1	10	12		
B_2	10	12		
B_3	10	13		

$$M_H J = 400 \tag{365}$$

$$M_{A_1} = 425 \tag{366}$$

$$M_{A_2} = 425 \tag{367}$$

$$M_{A_3} = 425 \tag{368}$$

$$M_{A_4} = 425 \tag{369}$$

$$M_{A_5} = 425 \tag{370}$$

$$M_{B_1} = 425 \tag{371}$$

$$M_{B_2} = 425 \tag{372}$$

$$M_{B_3} = 450 \tag{373}$$

$$T_5 = \frac{425 + 425 + 425 + 425 + 425 + 425 + 425}{7} + 75 + 25 \tag{374}$$

$$T_5 = 525 \tag{375}$$

T_1	T_2	T_3	T_4	T_5
229.8998	96.6667	43.75	140.4167	525

R_{Diff}	R_{Crea}	R
−32.6002	−122.0833	−154.6835

C – T008　Did Not Skip

T_1	T_2	T_3	T_4	T_5
R_{Diff}		R_{Crea}		R

C – T009   L4 cap to capped L3, score over 500

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	10	10	10	10	10	10
A_3	10	10	10	10	10	10
A_4	10	10	10	10	10	10
A_5	10	10	10	10	10	10

$$S_{A_1} = 40 \tag{376}$$
$$S_{A_2} = 40 \tag{377}$$
$$S_{A_3} = 40 \tag{378}$$
$$S_{A_4} = 40 \tag{379}$$
$$S_{A_5} = 40 \tag{380}$$
$$T_2 = 5\frac{40 + 40 + 40}{3} \tag{381}$$
$$T_2 = 200 \tag{382}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	3	3	3	3	3	3	3
B_2	3	3	3	3	3	3	3
B_3	3	3	3	3	3	3	3

$$S_{B_1} = 21 \tag{383}$$
$$S_{B_2} = 21 \tag{384}$$
$$S_{B_3} = 21 \tag{385}$$
$$T_3 = \frac{50}{16} \times \frac{21 + 21 + 21}{3} \tag{386}$$
$$T_3 = 50 \tag{387}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	4	13	15	10	10
D_3	4	13	15	10	10
D_4	4	13	15	10	10
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{388}$$

$$S_{D_2} = \begin{cases} L2 &=& 9.3704 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 35 \\ L6 &=& 52.5 \end{cases} = 146.8704 \tag{389}$$

$$S_{D_3} = \begin{cases} L2 &=& 9.3704 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 35 \\ L6 &=& 52.5 \end{cases} = 146.8704 \tag{390}$$

$$S_{D_4} = \begin{cases} L2 &=& 9.3704 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 35 \\ L6 &=& 52.5 \end{cases} = 146.8704 \tag{391}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{392}$$

$$T_1 = 2.5\frac{68.3797 + 146.8704 + 146.8704}{3} \tag{393}$$

$$T_1 = 301.7671 \tag{394}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	1	0	0	0
A_1	1	1		
A_2	1	0		
A_3	1	1		
A_4	1	0		
A_5	1	1		
B_1	1	0		
B_2	1	1		
B_3	1	0		

$$M_H J = 12.5 \tag{395}$$

$$M_{A_1} = 37.5 \tag{396}$$

$$M_{A_2} = 12.5 \tag{397}$$

$$M_{A_3} = 37.5 \tag{398}$$

$$M_{A_4} = 12.5 \tag{399}$$

$$M_{A_5} = 37.5 \tag{400}$$

$$M_{B_1} = 12.5 \tag{401}$$

$$M_{B_2} = 37.5 \tag{402}$$

$$M_{B_3} = 12.5 \tag{403}$$

$$T_5 = \frac{12.5 + 12.5 + 12.5 + 12.5 + 37.5 + 37.5 + 37.5}{7} + 0 + 0 \tag{404}$$

$$T_5 = 23.2143 \tag{405}$$

T_1	T_2	T_3	T_4	T_5
301.7671	200	50	250	23.2143

R_{Diff}		R_{Crea}		R	
290.1600		238.3929		528.5529	

C – T010 $\quad$ L4 cap to capped L3 capping L2

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	6	5	4	3	2	1
A_5	1	2	3	4	5	6

$$S_{A_1} \;=\; 40 \tag{406}$$

$$S_{A_2} \;=\; 30 \tag{407}$$

$$S_{A_3} \;=\; 20 \tag{408}$$

$$S_{A_4} \;=\; 15 \tag{409}$$

$$S_{A_5} \;=\; 13 \tag{410}$$

$$T_2 \;=\; 5\frac{30 + 20 + 15}{3} \tag{411}$$

$$T_2 \;=\; 108.3333 \tag{412}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	3	3	2	2	2	0	3
B_2	3	2	1	2	0	2	3
B_3	3	2	2	3	2	2	0

$$S_{B_1} \;=\; 15 \tag{413}$$

$$S_{B_2} \;=\; 13 \tag{414}$$

$$S_{B_3} \;=\; 14 - 2 \tag{415}$$

$$T_3 \;=\; \frac{50}{16} \times \frac{15 + 13 + 12}{3} \tag{416}$$

$$T_3 \;=\; 41.6667 \tag{417}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	5	13	15	10	10
D_3	5	13	15	10	10
D_4	5	13	15	10	10
D_5	5	5	5	5	5

$$S_{D_1} = \begin{Bmatrix} L2 & = & 5.1852 \\ L3 & = & 7.7778 \\ L4 & = & 11.6667 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{Bmatrix} = 68.3797 \tag{418}$$

$$S_{D_2} = \begin{Bmatrix} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 35 \\ L6 & = & 52.5 \end{Bmatrix} = 147.5 \tag{419}$$

$$S_{D_3} = \begin{Bmatrix} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 35 \\ L6 & = & 52.5 \end{Bmatrix} = 147.5 \tag{420}$$

$$S_{D_4} = \begin{Bmatrix} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 35 \\ L6 & = & 52.5 \end{Bmatrix} = 147.5 \tag{421}$$

$$S_{D_5} = \begin{Bmatrix} L2 & = & 5.1852 \\ L3 & = & 7.7778 \\ L4 & = & 11.6667 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{Bmatrix} = 68.3797 \tag{422}$$

$$T_1 = 2.5 \frac{68.3797 + 147.5 + 147.5}{3} \tag{423}$$

$$T_1 = 302.8164 \tag{424}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	0	0	1
A_1	1	0		
A_2	0	1		
A_3	1	1		
A_4	0	0		
A_5	1	0		
B_1	0	1		
B_2	1	1		
B_3	0	0		

$$
\begin{aligned}
M_H J &= 0 & (425) \\
M_{A_1} &= 12.5 & (426) \\
M_{A_2} &= 25 & (427) \\
M_{A_3} &= 37.5 & (428) \\
M_{A_4} &= 0 & (429) \\
M_{A_5} &= 12.5 & (430) \\
M_{B_1} &= 25 & (431) \\
M_{B_2} &= 37.5 & (432) \\
M_{B_3} &= 0 & (433) \\
T_5 &= \frac{0 + 0 + 12.5 + 12.5 + 25 + 25 + 37.5}{7} + 12.5 + 0 & (434) \\
T_5 &= 28,5714 & (435)
\end{aligned}
$$

T_1	T_2	T_3	T_4	T_5
302.8164	108.3333	41.6667	150	28.5714

R_{Diff}		R_{Crea}		R	
288.5307		135.7143		424.245	

C – T011   L4 cap to capped L3 to capped L2, 10.5 presentation

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	2.5	2.5	2.5	10.5	10.5	10.5
A_5	1	10.5	10.5	0	5	9.5

$$S_{A_1} = 40 \tag{436}$$
$$S_{A_2} = 30 \tag{437}$$
$$S_{A_3} = 20 \tag{438}$$
$$S_{A_4} = 28.75 \tag{439}$$
$$S_{A_5} = 20.25 \tag{440}$$
$$T_2 = 5\frac{30 + 28.75 + 20.25}{3} \tag{441}$$
$$T_2 = 131.6667 \tag{442}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	3	3	2	2	2	0	3
B_2	3	2	1	2	0	2	3
B_3	3	2	2	3	2	2	0

$$S_{B_1} = 15 \tag{443}$$
$$S_{B_2} = 13 \tag{444}$$
$$S_{B_3} = 14 - 2 \tag{445}$$
$$T_3 = \frac{50}{16} \times \frac{15 + 13 + 12}{3} \tag{446}$$
$$T_3 = 41.6667 \tag{447}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	10	13	15	10	10
D_3	10	13	15	10	10
D_4	10	13	15	10	10
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \qquad (448)$$

$$S_{D_2} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 35 \\ L6 &=& 52.5 \end{cases} = 147.5 \qquad (449)$$

$$S_{D_3} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 35 \\ L6 &=& 52.5 \end{cases} = 147.5 \qquad (450)$$

$$S_{D_4} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 35 \\ L6 &=& 52.5 \end{cases} = 147.5 \qquad (451)$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \qquad (452)$$

$$T_1 = 2.5\frac{68.3797 + 147.5 + 147.5}{3} \qquad (453)$$

$$T_1 = 302.8164 \qquad (454)$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	0	0	1
A_1	1	0		
A_2	0	1		
A_3	1	1		
A_4	0	0		
A_5	1	0		
B_1	0	1		
B_2	1	1		
B_3	0	0		

$$M_H J = 0 \tag{455}$$

$$M_{A_1} = 12.5 \tag{456}$$

$$M_{A_2} = 25 \tag{457}$$

$$M_{A_3} = 37.5 \tag{458}$$

$$M_{A_4} = 0 \tag{459}$$

$$M_{A_5} = 12.5 \tag{460}$$

$$M_{B_1} = 25 \tag{461}$$

$$M_{B_2} = 37.5 \tag{462}$$

$$M_{B_3} = 0 \tag{463}$$

$$T_5 = \frac{0 + 0 + 12.5 + 12.5 + 25 + 25 + 37.5}{7} + 12.5 + 0 \tag{464}$$

$$T_5 = 28.5714 \tag{465}$$

T_1	T_2	T_3	T_4	T_5
302.8164	131.6667	41.6667	173.3333	28.5714

R_{Diff}	R_{Crea}	R
288.5307	159.0476	447.5783

C – T012   Total Score is Zero

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	0	0	0	0	0	0
A_2	0	0	0	0	0	0
A_3	0	0	0	0	0	0
A_4	0	0	0	0	0	0
A_5	0	0	0	0	0	0

$$S_{A_1} = 0 \tag{466}$$
$$S_{A_2} = 0 \tag{467}$$
$$S_{A_3} = 0 \tag{468}$$
$$S_{A_4} = 0 \tag{469}$$
$$S_{A_5} = 0 \tag{470}$$
$$T_2 = 5\frac{0+0+0}{3} \tag{471}$$
$$T_2 = 0 \tag{472}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	0	0	0	0	0	0	2
B_2	0	0	0	0	0	0	1
B_3	0	0	0	0	0	0	1

$$S_{B_1} = 2 \tag{473}$$
$$S_{B_2} = 1 - 2 \tag{474}$$
$$S_{B_3} = 1 - 2 \tag{475}$$
$$T_3 = \frac{50}{16} \times \frac{2 + (-1) + (-1)}{3} \tag{476}$$
$$T_3 = 0 \tag{477}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	0	0	0	0	0
D_2	0	0	0	0	0
D_3	0	0	0	0	0
D_4	0	0	0	0	0
D_5	0	0	0	0	0

$$S_{D_1} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \\ L6 &=& 0 \end{cases} = 0 \tag{478}$$

$$S_{D_2} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \\ L6 &=& 0 \end{cases} = 0 \tag{479}$$

$$S_{D_3} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \\ L6 &=& 0 \end{cases} = 0 \tag{480}$$

$$S_{D_4} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \\ L6 &=& 0 \end{cases} = 0 \tag{481}$$

$$S_{D_5} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \\ L6 &=& 0 \end{cases} = 0 \tag{482}$$

$$T_1 = 2.5\frac{0+0+0}{3} \tag{483}$$

$$T_1 = 0 \tag{484}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	0	0	0
A_1	0	0		
A_2	0	0		
A_3	0	0		
A_4	0	0		
A_5	0	0		
B_1	0	0		
B_2	0	0		
B_3	0	0		

$$M_H J = 0 \tag{485}$$

$$M_{A_1} = 0 \tag{486}$$

$$M_{A_2} = 0 \tag{487}$$

$$M_{A_3} = 0 \tag{488}$$

$$M_{A_4} = 0 \tag{489}$$

$$M_{A_5} = 0 \tag{490}$$

$$M_{B_1} = 0 \tag{491}$$

$$M_{B_2} = 0 \tag{492}$$

$$M_{B_3} = 0 \tag{493}$$

$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 0 \tag{494}$$

$$T_5 = 0 \tag{495}$$

T_1	T_2	T_3	T_4	T_5
0	0	0	0	0

R_{Diff}	R_{Crea}	R
0	0	0

Event Ranks

Team	R_{Diff}	Rank (Difficulty)	R_{Crea}	Rank (Creativity)	R	Ranksum	Rank (Ranksum)
T001	133.4493	9	106.25	9	239.6993	18	9
T002	187.9465	6	122.3215	8	310.268	14	8
T003	181.4872	8	136.3096	6	317.7967	14	7
T004	186.8443	7	151.0471	4	337.8914	11	6
T005	203.5881	5	152.0833	3	355.6714	8	3
T006	222.8011	4	140.4167	5	363.2178	9	5
T007	-32.6002	11	-122.0833	11	-154.6835	22	11
T008							
T009	290.1600	1	238.3929	1	528.5529	2	1
T010	288.5307	2	135.7143	7	424.245	9	4
T011	288.5307	2	159.0476	2	447.5783	4	2
T012	0	10	0	10	0	20	10

D   Single Rope Team Freestyle

$$round\,(x) = \frac{\lceil 10000x \rceil}{10000} \tag{496}$$

Presentation

The following abbreviations will be used

MoB	Music On Beat
UoM	Use of Music
Mov	Movement
FBE	Form of Body and Execution
Ori	Originality
OIm	Overall Impression

$$S_{A_x} = 0.5\left(A_{x_{MoB}} + A_{x_{UoM}}\right) + 0.5A_{x_{Mov}} + A_{x_{FBE}} + A_{x_{Ori}} + 0.5A_{x_{OIm}} \tag{497}$$

$$T_2 = round\left(5\frac{S_{A_a} + S_{A_b} + S_{A_c}}{3}\right) \tag{498}$$

Where the highest and lowest of the five presentation scores (S_{A_x}) are dropped before averaging the remaining three.

Required Elements

The following abbreviations will be used

Mu	Multiple sets
Gy	Gymnastics
Po	Power
Sp	Speed Dances
Re	Releases
Wr	Wraps
In	Pairs Interactions

$$S_{B_x} = B_{x_{Mu}} + B_{x_{Gy}} + B_{x_{Po}} + B_{x_{Sp}} + B_{x_{Re}} + B_{x_{Wr}} + B_{x_{In}} \tag{499}$$

$$(S_{B_x} > 16 \quad \rightarrow \quad S_{B_x} = 16) \tag{500}$$

$$(B_{x_{In}} < 2 \quad \rightarrow \quad S_{B_x} = S_{B_x} - (B_{x_{In}} - 2)) \tag{501}$$

$$T_3 = round\left(\frac{50}{16} \times \frac{S_{B_1} + S_{B_2} + S_{B_3}}{3}\right) \tag{502}$$

$$(T_3 > 50 \quad \rightarrow \quad T_3 = 50) \tag{503}$$

Note that the deductions specified in equation (501) are not explicitly specified in the Judging Manual. However, it's the most common practice and was required for the scoring system used at the World Rope Skipping Championchips 2016 in Malmö, Sweden.

Difficulty

$$l(x) = \frac{3.5}{1.5^{5-x}} \tag{504}$$

$$S_{D_{x_{Ly}}} = D_{x_{Ly}} \times l(y) \tag{505}$$

$$(S_{D_{x_{L4}}} > 30 \rightarrow S_{D_{x_{L3}}} = S_{D_{x_{L3}}} + (S_{D_{x_{L4}}} - 30)) \tag{506}$$

$$(S_{D_{x_{L4}}} > 30 \rightarrow S_{D_{x_{L4}}} = 30) \tag{507}$$

$$(S_{D_{x_{L3}}} > 20 \rightarrow S_{D_{x_{L2}}} = S_{D_{x_{L2}}} + (S_{D_{x_{L3}}} - 20) \& S_{D_{x_{L3}}} = 20) \tag{508}$$

$$(S_{D_{x_{L3}}} > 20 \rightarrow S_{D_{x_{L3}}} = 20) \tag{509}$$

$$(S_{D_{x_{L2}}} > 10 \rightarrow S_{D_{x_{L2}}} = 10) \tag{510}$$

$$S_{D_x} = S_{D_{x_{L2}}} + S_{D_{x_{L3}}} + S_{D_{x_{L4}}} + S_{D_{x_{L5}}} + S_{D_{x_{L6}}} \tag{511}$$

$$T_1 = round\left(2.5\frac{S_{D_a} + S_{D_b} + S_{D_c}}{3}\right) \tag{512}$$

Where the highest and lowest of the five difficulty scores (S_{D_x}) are dropped before averaging the remaining three.

Creativity

$$T_4 = round\left(T_3 + T_2\right) \tag{513}$$

Misses

$$M_{HJ} = 12.5HJ_{Minor} + 25HJ_{Major} \tag{514}$$

$$M_{A_x} = 12.5A_{x_{Minor}} + 25A_{x_{Major}} \tag{515}$$

$$M_{B_x} = 12.5B_{x_{Minor}} + 25B_{x_{Major}} \tag{516}$$

$$T_5 = round\left(\frac{M_a + M_b + M_c + M_d + M_e + M_f + M_g}{7} + 12.5HJ_{Space} + 25HJ_{Time}\right) \tag{517}$$

Where the highest and lowest of the nine difficulty scores (M_x) are dropped before averaging the remaining seven.

Final

$$R_{Diff} = round\left(T_1 - \frac{T_5}{2}\right) \tag{518}$$

$$R_{Crea} = round\left(T_4 - \frac{T_5}{2}\right) \tag{519}$$

$$R = round\left(T_1 + T_4 - T_5\right) \tag{520}$$

D – T001   Nothing Special

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	5	5	5	5	5	5
A_2	5	5	5	5	5	5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	5	5	5	5	5	5

$$S_{A_1} = 20 \tag{521}$$
$$S_{A_2} = 20 \tag{522}$$
$$S_{A_3} = 20 \tag{523}$$
$$S_{A_4} = 20 \tag{524}$$
$$S_{A_5} = 20 \tag{525}$$
$$T_2 = 5\frac{20 + 20 + 20}{3} \tag{526}$$
$$T_2 = 100 \tag{527}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	2	2	2	2	2	2	2
B_2	2	2	2	2	2	2	2
B_3	2	2	2	2	2	2	2

$$S_{B_1} = 14 \tag{528}$$
$$S_{B_2} = 14 \tag{529}$$
$$S_{B_3} = 14 \tag{530}$$
$$T_3 = \frac{50}{16} \times \frac{14 + 14 + 14}{3} \tag{531}$$
$$T_3 = 43.75 \tag{532}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	5	5	5	5	5
D_3	5	5	5	5	5
D_4	5	5	5	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{533}$$

$$S_{D_2} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{534}$$

$$S_{D_3} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{535}$$

$$S_{D_4} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{536}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{537}$$

$$T_1 = 2.5\frac{68.3797 + 68.3797 + 68.3797}{3} \tag{538}$$

$$T_1 = 170.9493 \tag{539}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	1	1	1	1
A_1	1	1		
A_2	1	1		
A_3	1	1		
A_4	1	1		
A_5	1	1		
B_1	1	1		
B_2	1	1		
B_3	1	1		

$$M_H J = 37.5 \tag{540}$$
$$M_{A_1} = 37.5 \tag{541}$$
$$M_{A_2} = 37.5 \tag{542}$$
$$M_{A_3} = 37.5 \tag{543}$$
$$M_{A_4} = 37.5 \tag{544}$$
$$M_{A_5} = 37.5 \tag{545}$$
$$M_{B_1} = 37.5 \tag{546}$$
$$M_{B_2} = 37.5 \tag{547}$$
$$M_{B_3} = 37.5 \tag{548}$$
$$T_5 = \frac{37.5 + 37.5 + 37.5 + 37.5 + 37.5 + 37.5 + 37.5}{7} + 12.5 + 25 \tag{549}$$
$$T_5 = 75 \tag{550}$$

T_1	T_2	T_3	T_4	T_5
170.9493	100	43.75	143.75	75

R_{Diff}		R_{Crea}		R	
133.4493		106.25		239.6993	

D – T002 No interactions, L3 cap, only minor misses

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	5	5	5	5	5	5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	0	0	0	0	0	0

$$S_{A_1} = 40 \tag{551}$$
$$S_{A_2} = 20 \tag{552}$$
$$S_{A_3} = 20 \tag{553}$$
$$S_{A_4} = 20 \tag{554}$$
$$S_{A_5} = 0 \tag{555}$$
$$T_2 = 5\frac{20 + 20 + 20}{3} \tag{556}$$
$$T_2 = 100 \tag{557}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	2	2	2	2	2	2	0
B_2	2	2	2	2	2	2	0
B_3	2	2	2	2	2	2	0

$$S_{B_1} = 12 - 2 \tag{558}$$
$$S_{B_2} = 12 - 2 \tag{559}$$
$$S_{B_3} = 12 - 2 \tag{560}$$
$$T_3 = \frac{50}{16} \times \frac{10 + 10 + 10}{3} \tag{561}$$
$$T_3 = 31.25 \tag{562}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	5	15	5	5	5
D_3	5	15	5	5	5
D_4	5	15	5	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{563}$$

$$S_{D_2} = \begin{cases} L2 &=& 8.5185 \\ L3 &=& 20 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 83.9352 \tag{564}$$

$$S_{D_3} = \begin{cases} L2 &=& 8.5185 \\ L3 &=& 20 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 83.9352 \tag{565}$$

$$S_{D_4} = \begin{cases} L2 &=& 8.5185 \\ L3 &=& 20 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 83.9352 \tag{566}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{567}$$

$$T_1 = 2.5 \frac{68.3797 + 83.9352 + 83.9352}{3} \tag{568}$$

$$T_1 = 196.8751 \tag{569}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	4	0	0	0
A_1	3	0		
A_2	2	0		
A_3	1	0		
A_4	1	0		
A_5	1	0		
B_1	1	0		
B_2	1	0		
B_3	1	0		

$$M_H J = 50 \tag{570}$$
$$M_{A_1} = 37.5 \tag{571}$$
$$M_{A_2} = 25 \tag{572}$$
$$M_{A_3} = 12.5 \tag{573}$$
$$M_{A_4} = 12.5 \tag{574}$$
$$M_{A_5} = 12.5 \tag{575}$$
$$M_{B_1} = 12.5 \tag{576}$$
$$M_{B_2} = 12.5 \tag{577}$$
$$M_{B_3} = 12.5 \tag{578}$$
$$T_5 = \frac{37.5 + 25 + 12.5 + 12.5 + 12.5 + 12.5 + 12.5}{7} + 0 + 0 \tag{579}$$
$$T_5 = 17.8571 \tag{580}$$

T_1	T_2	T_3	T_4	T_5
196.8751	100	31.25	131.25	17.8571

R_{Diff}		R_{Crea}		R	
187.9465		122.3215		310.268	

D – T003   One interactions, L3 cap capping L2, only major misses

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	0	0	0	0	0	0

$$S_{A_1} = 40 \tag{581}$$
$$S_{A_2} = 30 \tag{582}$$
$$S_{A_3} = 20 \tag{583}$$
$$S_{A_4} = 20 \tag{584}$$
$$S_{A_5} = 0 \tag{585}$$
$$T_2 = 5\frac{30 + 20 + 20}{3} \tag{586}$$
$$T_2 = 116.6667 \tag{587}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	2	2	2	2	2	2	1
B_2	2	2	2	2	2	2	1
B_3	2	2	2	2	2	2	1

$$S_{B_1} = 13 - 1 \tag{588}$$
$$S_{B_2} = 13 - 1 \tag{589}$$
$$S_{B_3} = 13 - 1 \tag{590}$$
$$T_3 = \frac{50}{16} \times \frac{12 + 12 + 12}{3} \tag{591}$$
$$T_3 = 37.5 \tag{592}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	7	15	5	5	5
D_3	7	15	5	5	5
D_4	7	15	5	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{593}$$

$$S_{D_2} = \begin{cases} L2 &=& 10 \\ L3 &=& 20.0 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 85.4167 \tag{594}$$

$$S_{D_3} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 85.4167 \tag{595}$$

$$S_{D_4} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 85.4167 \tag{596}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{597}$$

$$T_1 = 2.5 \frac{68.3797 + 85.4167 + 85.4167}{3} \tag{598}$$

$$T_1 = 199.3443 \tag{599}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	4	0	0
A_1	0	3		
A_2	0	2		
A_3	0	1		
A_4	0	1		
A_5	0	1		
B_1	0	1		
B_2	0	1		
B_3	0	0		

$$M_H J = 100 \tag{600}$$
$$M_{A_1} = 75 \tag{601}$$
$$M_{A_2} = 50 \tag{602}$$
$$M_{A_3} = 25 \tag{603}$$
$$M_{A_4} = 25 \tag{604}$$
$$M_{A_5} = 25 \tag{605}$$
$$M_{B_1} = 25 \tag{606}$$
$$M_{B_2} = 25 \tag{607}$$
$$M_{B_3} = 25 \tag{608}$$
$$T_5 = \frac{75 + 50 + 25 + 25 + 25 + 25 + 25}{7} + 0 + 0 \tag{609}$$
$$T_5 = 35.7143 \tag{610}$$

T_1	T_2	T_3	T_4	T_5
199.3443	116.6667	37.5	154.1667	35.7143

R_{Diff}	R_{Crea}	R
181.4872	136.3096	317.7967

D – T004   Three interactions, L3 cap to capped L2, only Time miss

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	1	2	3	4	5	6

$$S_{A_1} = 40 \tag{611}$$
$$S_{A_2} = 30 \tag{612}$$
$$S_{A_3} = 20 \tag{613}$$
$$S_{A_4} = 20 \tag{614}$$
$$S_{A_5} = 15.75 \tag{615}$$
$$T_2 = 5\frac{30 + 20 + 20}{3} \tag{616}$$
$$T_2 = 116.6667 \tag{617}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	2	2	2	2	2	2	3
B_2	2	2	2	2	2	2	3
B_3	2	2	2	2	2	2	3

$$S_{B_1} = 15 \tag{618}$$
$$S_{B_2} = 15 \tag{619}$$
$$S_{B_3} = 15 \tag{620}$$
$$T_3 = \frac{50}{16} \times \frac{15 + 15 + 15}{3} \tag{621}$$
$$T_3 = 46.875 \tag{622}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	10	15	5	5	5
D_3	10	15	5	5	5
D_4	10	15	5	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{623}$$

$$S_{D_2} = \begin{cases} L2 &=& 10 \\ L3 &=& 20.0 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 85.4167 \tag{624}$$

$$S_{D_3} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 85.4167 \tag{625}$$

$$S_{D_4} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 85.4167 \tag{626}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{627}$$

$$T_1 = 2.5\frac{68.3797 + 85.4167 + 85.4167}{3} \tag{628}$$

$$T_1 = 199.3443 \tag{629}$$

Misses (T_5)

	Minor	Major	Time	Space
HJ	0	0	1	0
A_1	0	0		
A_2	0	0		
A_3	0	0		
A_4	0	0		
A_5	0	0		
B_1	0	0		
B_2	0	0		
B_3	0	0		

$$M_H J = 0 \tag{630}$$
$$M_{A_1} = 0 \tag{631}$$
$$M_{A_2} = 0 \tag{632}$$
$$M_{A_3} = 0 \tag{633}$$
$$M_{A_4} = 0 \tag{634}$$
$$M_{A_5} = 0 \tag{635}$$
$$M_{B_1} = 0 \tag{636}$$
$$M_{B_2} = 0 \tag{637}$$
$$M_{B_3} = 0 \tag{638}$$
$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 25 \tag{639}$$
$$T_5 = 25 \tag{640}$$

T_1	T_2	T_3	T_4	T_5
199.3443	116.6667	46.875	163.5417	25

R_{Diff}	R_{Crea}	R
186.8443	151.0471	337.8914

D – T005　More than 16 Required Elements, L4 cap, only Space miss

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	6	5	4	3	2	1
A_5	1	2	3	4	5	6

$$S_{A_1} = 40 \tag{641}$$
$$S_{A_2} = 30 \tag{642}$$
$$S_{A_3} = 20 \tag{643}$$
$$S_{A_4} = 13 \tag{644}$$
$$S_{A_5} = 15 \tag{645}$$
$$T_2 = 5\frac{30 + 20 + 15}{3} \tag{646}$$
$$T_2 = 108.3333 \tag{647}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	3	3	2	2	2	2	3
B_2	3	3	2	2	2	2	3
B_3	3	3	2	2	2	2	3

$$S_{B_1} = 17 \tag{648}$$
$$S_{B_2} = 17 \tag{649}$$
$$S_{B_3} = 17 \tag{650}$$
$$T_3 = \frac{50}{16} \times \frac{16 + 16 + 16}{3} \tag{651}$$
$$T_3 = 50 \tag{652}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	5	5	15	5	5
D_3	5	5	15	5	5
D_4	5	5	15	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{653}$$

$$S_{D_2} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 12.7778 \\ L4 &=& 30 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 91.713 \tag{654}$$

$$S_{D_3} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 12.7778 \\ L4 &=& 30 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 91.713 \tag{655}$$

$$S_{D_4} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 12.7778 \\ L4 &=& 30 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 91.713 \tag{656}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{657}$$

$$T_1 = 2.5\frac{68.3797 + 91.713 + 91.713}{3} \tag{658}$$

$$T_1 = 209.8381 \tag{659}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	0	0	1
A_1	0	0		
A_2	0	0		
A_3	0	0		
A_4	0	0		
A_5	0	0		
B_1	0	0		
B_2	0	0		
B_3	0	0		

$$M_H J = 0 \tag{660}$$

$$M_{A_1} = 0 \tag{661}$$

$$M_{A_2} = 0 \tag{662}$$

$$M_{A_3} = 0 \tag{663}$$

$$M_{A_4} = 0 \tag{664}$$

$$M_{A_5} = 0 \tag{665}$$

$$M_{B_1} = 0 \tag{666}$$

$$M_{B_2} = 0 \tag{667}$$

$$M_{B_3} = 0 \tag{668}$$

$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 12.5 + 0 \tag{669}$$

$$T_5 = 12.5 \tag{670}$$

T_1	T_2	T_3	T_4	T_5
209.8381	108.3333	50	158.3333	12.5

R_{Diff}		R_{Crea}		R	
203.5881		152.0833		355.6714	

D – T006   L4 cap capping L3, no misses

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	1	2	3	2	1	0
A_4	6	5	4	3	2	1
A_5	1	2	3	4	5	6

$$S_{A_1} = 40 \tag{671}$$
$$S_{A_2} = 30 \tag{672}$$
$$S_{A_3} = 6 \tag{673}$$
$$S_{A_4} = 13 \tag{674}$$
$$S_{A_5} = 15 \tag{675}$$
$$T_2 = 5\frac{30 + 15 + 13}{3} \tag{676}$$
$$T_2 = 96.6667 \tag{677}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	3	3	2	2	2	0	3
B_2	3	2	3	2	0	2	3
B_3	3	2	2	3	2	2	0

$$S_{B_1} = 15 \tag{678}$$
$$S_{B_2} = 15 \tag{679}$$
$$S_{B_3} = 14 - 2 \tag{680}$$
$$T_3 = \frac{50}{16} \times \frac{15 + 15 + 12}{3} \tag{681}$$
$$T_3 = 43.75 \tag{682}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	5	10	15	5	5
D_3	5	10	15	5	5
D_4	5	10	15	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{683}$$

$$S_{D_2} = \begin{cases} L2 &=& 5.7408 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 99.4908 \tag{684}$$

$$S_{D_3} = \begin{cases} L2 &=& 5.7408 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 99.4908 \tag{685}$$

$$S_{D_4} = \begin{cases} L2 &=& 5.7408 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 99.4908 \tag{686}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{687}$$

$$T_1 = 2.5\frac{68.3797 + 99.4908 + 99.4908}{3} \tag{688}$$

$$T_1 = 222.8011 \tag{689}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	0	0	0
A_1	0	0		
A_2	0	0		
A_3	0	0		
A_4	0	0		
A_5	0	0		
B_1	0	0		
B_2	0	0		
B_3	0	0		

$$M_H J = 0 \tag{690}$$

$$M_{A_1} = 0 \tag{691}$$

$$M_{A_2} = 0 \tag{692}$$

$$M_{A_3} = 0 \tag{693}$$

$$M_{A_4} = 0 \tag{694}$$

$$M_{A_5} = 0 \tag{695}$$

$$M_{B_1} = 0 \tag{696}$$

$$M_{B_2} = 0 \tag{697}$$

$$M_{B_3} = 0 \tag{698}$$

$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 0 \tag{699}$$

$$T_5 = 0 \tag{700}$$

T_1	T_2	T_3	T_4	T_5
222.8011	96.6667	43.75	140.4167	0

R_{Diff}		R_{Crea}		R
222.8011		140.4167		363.2178

D – T007 L4 cap capping L3 capping L2, negative score, more than 500 in deductions

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	1	2	3	2	1	0
A_4	6	5	4	3	2	1
A_5	1	2	3	4	5	6

$$S_{A_1} = 40 \tag{701}$$
$$S_{A_2} = 30 \tag{702}$$
$$S_{A_3} = 6 \tag{703}$$
$$S_{A_4} = 13 \tag{704}$$
$$S_{A_5} = 15 \tag{705}$$
$$T_2 = 5\frac{30 + 15 + 13}{3} \tag{706}$$
$$T_2 = 96.6667 \tag{707}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	3	3	2	2	2	0	3
B_2	3	2	3	2	0	2	3
B_3	3	2	2	3	2	2	0

$$S_{B_1} = 15 \tag{708}$$
$$S_{B_2} = 15 \tag{709}$$
$$S_{B_3} = 14 - 2 \tag{710}$$
$$T_3 = \frac{50}{16} \times \frac{15 + 15 + 12}{3} \tag{711}$$
$$T_3 = 43.75 \tag{712}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	9	11	15	5	5
D_3	9	11	15	5	5
D_4	9	11	15	5	5
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &= & 5.1852 \\ L3 &= & 7.7778 \\ L4 &= & 11.6667 \\ L5 &= & 17.5 \\ L6 &= & 26.25 \end{cases} = 68.3797 \tag{713}$$

$$S_{D_2} = \begin{cases} L2 &= & 10 \\ L3 &= & 20 \\ L4 &= & 30 \\ L5 &= & 17.5 \\ L6 &= & 26.25 \end{cases} = 103.75 \tag{714}$$

$$S_{D_3} = \begin{cases} L2 &= & 10 \\ L3 &= & 20 \\ L4 &= & 30 \\ L5 &= & 17.5 \\ L6 &= & 26.25 \end{cases} = 103.75 \tag{715}$$

$$S_{D_4} = \begin{cases} L2 &= & 10 \\ L3 &= & 20 \\ L4 &= & 30 \\ L5 &= & 17.5 \\ L6 &= & 26.25 \end{cases} = 103.75 \tag{716}$$

$$S_{D_5} = \begin{cases} L2 &= & 5.1852 \\ L3 &= & 7.7778 \\ L4 &= & 11.6667 \\ L5 &= & 17.5 \\ L6 &= & 26.25 \end{cases} = 68.3797 \tag{717}$$

$$T_1 = 2.5\frac{68.3797 + 103.75 + 103.75}{3} \tag{718}$$

$$T_1 = 229.8998 \tag{719}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	10	11	1	6
A_1	10	12		
A_2	10	12		
A_3	10	12		
A_4	10	12		
A_5	10	12		
B_1	10	12		
B_2	10	12		
B_3	10	13		

$$M_H J \quad = \quad 400 \tag{720}$$

$$M_{A_1} \quad = \quad 425 \tag{721}$$

$$M_{A_2} \quad = \quad 425 \tag{722}$$

$$M_{A_3} \quad = \quad 425 \tag{723}$$

$$M_{A_4} \quad = \quad 425 \tag{724}$$

$$M_{A_5} \quad = \quad 425 \tag{725}$$

$$M_{B_1} \quad = \quad 425 \tag{726}$$

$$M_{B_2} \quad = \quad 425 \tag{727}$$

$$M_{B_3} \quad = \quad 450 \tag{728}$$

$$T_5 \quad = \quad \frac{425 + 425 + 425 + 425 + 425 + 425 + 425}{7} + 75 + 25 \tag{729}$$

$$T_5 \quad = \quad 525 \tag{730}$$

T_1	T_2	T_3	T_4	T_5
229.8998	96.6667	43.75	140.4167	525

R_{Diff}	R_{Crea}	R
−32.6002	−122.0833	−154.6835

D – T008   L4 cap to capped L3, score over 500

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	10	10	10	10	10	10
A_3	10	10	10	10	10	10
A_4	10	10	10	10	10	10
A_5	10	10	10	10	10	10

$$S_{A_1} = 40 \tag{731}$$
$$S_{A_2} = 40 \tag{732}$$
$$S_{A_3} = 40 \tag{733}$$
$$S_{A_4} = 40 \tag{734}$$
$$S_{A_5} = 40 \tag{735}$$
$$T_2 = 5\frac{40 + 40 + 40}{3} \tag{736}$$
$$T_2 = 200 \tag{737}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	3	3	3	3	3	3	3
B_2	3	3	3	3	3	3	3
B_3	3	3	3	3	3	3	3

$$S_{B_1} = 21 \tag{738}$$
$$S_{B_2} = 21 \tag{739}$$
$$S_{B_3} = 21 \tag{740}$$
$$T_3 = \frac{50}{16} \times \frac{21 + 21 + 21}{3} \tag{741}$$
$$T_3 = 50 \tag{742}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	4	13	15	10	10
D_3	4	13	15	10	10
D_4	4	13	15	10	10
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{743}$$

$$S_{D_2} = \begin{cases} L2 &=& 9.3704 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 35 \\ L6 &=& 52.5 \end{cases} = 146.8704 \tag{744}$$

$$S_{D_3} = \begin{cases} L2 &=& 9.3704 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 35 \\ L6 &=& 52.5 \end{cases} = 146.8704 \tag{745}$$

$$S_{D_4} = \begin{cases} L2 &=& 9.3704 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 35 \\ L6 &=& 52.5 \end{cases} = 146.8704 \tag{746}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{747}$$

$$T_1 = 2.5 \frac{68.3797 + 146.8704 + 146.8704}{3} \tag{748}$$

$$T_1 = 301.7671 \tag{749}$$

Misses (T_5)

	Minor	Major	Time	Space
HJ	1	0	0	0
A_1	1	1		
A_2	1	0		
A_3	1	1		
A_4	1	0		
A_5	1	1		
B_1	1	0		
B_2	1	1		
B_3	1	0		

$$M_H J = 12.5 \tag{750}$$

$$M_{A_1} = 37.5 \tag{751}$$

$$M_{A_2} = 12.5 \tag{752}$$

$$M_{A_3} = 37.5 \tag{753}$$

$$M_{A_4} = 12.5 \tag{754}$$

$$M_{A_5} = 37.5 \tag{755}$$

$$M_{B_1} = 12.5 \tag{756}$$

$$M_{B_2} = 37.5 \tag{757}$$

$$M_{B_3} = 12.5 \tag{758}$$

$$T_5 = \frac{12.5 + 12.5 + 12.5 + 12.5 + 37.5 + 37.5 + 37.5}{7} + 0 + 0 \tag{759}$$

$$T_5 = 23.2143 \tag{760}$$

T_1	T_2	T_3	T_4	T_5
301.7671	200	50	250	23.2143

R_{Diff}		R_{Crea}		R	
290.1600		238.3929		528.5529	

D – T009   L4 cap to capped L3 capping L2

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	6	5	4	3	2	1
A_5	1	2	3	4	5	6

$$S_{A_1} = 40 \tag{761}$$
$$S_{A_2} = 30 \tag{762}$$
$$S_{A_3} = 20 \tag{763}$$
$$S_{A_4} = 15 \tag{764}$$
$$S_{A_5} = 13 \tag{765}$$
$$T_2 = 5\frac{30 + 20 + 15}{3} \tag{766}$$
$$T_2 = 108.3333 \tag{767}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	3	3	2	2	2	0	3
B_2	3	2	1	2	0	2	3
B_3	3	2	2	3	2	2	0

$$S_{B_1} = 15 \tag{768}$$
$$S_{B_2} = 13 \tag{769}$$
$$S_{B_3} = 14 - 2 \tag{770}$$
$$T_3 = \frac{50}{16} \times \frac{15 + 13 + 12}{3} \tag{771}$$
$$T_3 = 41.6667 \tag{772}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	5	13	15	10	10
D_3	5	13	15	10	10
D_4	5	13	15	10	10
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{773}$$

$$S_{D_2} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 35 \\ L6 &=& 52.5 \end{cases} = 147.5 \tag{774}$$

$$S_{D_3} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 35 \\ L6 &=& 52.5 \end{cases} = 147.5 \tag{775}$$

$$S_{D_4} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 35 \\ L6 &=& 52.5 \end{cases} = 147.5 \tag{776}$$

$$S_{D_5} = \begin{cases} L2 &=& 5.1852 \\ L3 &=& 7.7778 \\ L4 &=& 11.6667 \\ L5 &=& 17.5 \\ L6 &=& 26.25 \end{cases} = 68.3797 \tag{777}$$

$$T_1 = 2.5\frac{68.3797 + 147.5 + 147.5}{3} \tag{778}$$

$$T_1 = 302.8164 \tag{779}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	0	0	1
A_1	1	0		
A_2	0	1		
A_3	1	1		
A_4	0	0		
A_5	1	0		
B_1	0	1		
B_2	1	1		
B_3	0	0		

$$M_H J = 0 \tag{780}$$

$$M_{A_1} = 12.5 \tag{781}$$

$$M_{A_2} = 25 \tag{782}$$

$$M_{A_3} = 37.5 \tag{783}$$

$$M_{A_4} = 0 \tag{784}$$

$$M_{A_5} = 12.5 \tag{785}$$

$$M_{B_1} = 25 \tag{786}$$

$$M_{B_2} = 37.5 \tag{787}$$

$$M_{B_3} = 0 \tag{788}$$

$$T_5 = \frac{0 + 0 + 12.5 + 12.5 + 25 + 25 + 37.5}{7} + 12.5 + 0 \tag{789}$$

$$T_5 = 28,5714 \tag{790}$$

T_1	T_2	T_3	T_4	T_5
302.8164	108.3333	41.6667	150	28.5714

R_{Diff}		R_{Crea}		R	
288.5307		135.7143		424.245	

D – T010   L4 cap to capped L3 to capped L2, 10.5 presentation

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	2.5	2.5	2.5	10.5	10.5	10.5
A_5	1	10.5	10.5	0	5	9.5

$$S_{A_1} = 40 \tag{791}$$
$$S_{A_2} = 30 \tag{792}$$
$$S_{A_3} = 20 \tag{793}$$
$$S_{A_4} = 28.75 \tag{794}$$
$$S_{A_5} = 20.25 \tag{795}$$
$$T_2 = 5\frac{30 + 28.75 + 20.25}{3} \tag{796}$$
$$T_2 = 131.6667 \tag{797}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	3	3	2	2	2	0	3
B_2	3	2	1	2	0	2	3
B_3	3	2	2	3	2	2	0

$$S_{B_1} = 15 \tag{798}$$
$$S_{B_2} = 13 \tag{799}$$
$$S_{B_3} = 14 - 2 \tag{800}$$
$$T_3 = \frac{50}{16} \times \frac{15 + 13 + 12}{3} \tag{801}$$
$$T_3 = 41.6667 \tag{802}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	5	5	5	5	5
D_2	10	13	15	10	10
D_3	10	13	15	10	10
D_4	10	13	15	10	10
D_5	5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 & = & 5.1852 \\ L3 & = & 7.7778 \\ L4 & = & 11.6667 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{cases} = 68.3797 \tag{803}$$

$$S_{D_2} = \begin{cases} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 35 \\ L6 & = & 52.5 \end{cases} = 147.5 \tag{804}$$

$$S_{D_3} = \begin{cases} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 35 \\ L6 & = & 52.5 \end{cases} = 147.5 \tag{805}$$

$$S_{D_4} = \begin{cases} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 35 \\ L6 & = & 52.5 \end{cases} = 147.5 \tag{806}$$

$$S_{D_5} = \begin{cases} L2 & = & 5.1852 \\ L3 & = & 7.7778 \\ L4 & = & 11.6667 \\ L5 & = & 17.5 \\ L6 & = & 26.25 \end{cases} = 68.3797 \tag{807}$$

$$T_1 = 2.5\frac{68.3797 + 147.5 + 147.5}{3} \tag{808}$$

$$T_1 = 302.8164 \tag{809}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	0	0	1
A_1	1	0		
A_2	0	1		
A_3	1	1		
A_4	0	0		
A_5	1	0		
B_1	0	1		
B_2	1	1		
B_3	0	0		

$$M_H J = 0 \tag{810}$$

$$M_{A_1} = 12.5 \tag{811}$$

$$M_{A_2} = 25 \tag{812}$$

$$M_{A_3} = 37.5 \tag{813}$$

$$M_{A_4} = 0 \tag{814}$$

$$M_{A_5} = 12.5 \tag{815}$$

$$M_{B_1} = 25 \tag{816}$$

$$M_{B_2} = 37.5 \tag{817}$$

$$M_{B_3} = 0 \tag{818}$$

$$T_5 = \frac{0 + 0 + 12.5 + 12.5 + 25 + 25 + 37.5}{7} + 12.5 + 0 \tag{819}$$

$$T_5 = 28.5714 \tag{820}$$

T_1	T_2	T_3	T_4	T_5
302.8164	131.6667	41.6667	173.3333	28.5714

R_{Diff}		R_{Crea}		R	
288.5307		159.0476		447.5783	

D – T011   Total Score is Zero

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	0	0	0	0	0	0
A_2	0	0	0	0	0	0
A_3	0	0	0	0	0	0
A_4	0	0	0	0	0	0
A_5	0	0	0	0	0	0

$$S_{A_1} = 0 \tag{821}$$
$$S_{A_2} = 0 \tag{822}$$
$$S_{A_3} = 0 \tag{823}$$
$$S_{A_4} = 0 \tag{824}$$
$$S_{A_5} = 0 \tag{825}$$
$$T_2 = 5\frac{0+0+0}{3} \tag{826}$$
$$T_2 = 0 \tag{827}$$

Required Elements (T_3)

	Mu	Gy	Po	Sp	Re	Wr	In
B_1	0	0	0	0	0	0	2
B_2	0	0	0	0	0	0	1
B_3	0	0	0	0	0	0	1

$$S_{B_1} = 2 \tag{828}$$
$$S_{B_2} = 1-2 \tag{829}$$
$$S_{B_3} = 1-2 \tag{830}$$
$$T_3 = \frac{50}{16} \times \frac{2+(-1)+(-1)}{3} \tag{831}$$
$$T_3 = 0 \tag{832}$$

Difficulty (T_1)

	L2	L3	L4	L5	L6
D_1	0	0	0	0	0
D_2	0	0	0	0	0
D_3	0	0	0	0	0
D_4	0	0	0	0	0
D_5	0	0	0	0	0

$$S_{D_1} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \\ L6 &=& 0 \end{cases} = 0 \tag{833}$$

$$S_{D_2} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \\ L6 &=& 0 \end{cases} = 0 \tag{834}$$

$$S_{D_3} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \\ L6 &=& 0 \end{cases} = 0 \tag{835}$$

$$S_{D_4} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \\ L6 &=& 0 \end{cases} = 0 \tag{836}$$

$$S_{D_5} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \\ L6 &=& 0 \end{cases} = 0 \tag{837}$$

$$T_1 = 2.5\frac{0+0+0}{3} \tag{838}$$

$$T_1 = 0 \tag{839}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE
HJ	0	0	0	0
A_1	0	0		
A_2	0	0		
A_3	0	0		
A_4	0	0		
A_5	0	0		
B_1	0	0		
B_2	0	0		
B_3	0	0		

$$M_H J = 0 \tag{840}$$

$$M_{A_1} = 0 \tag{841}$$

$$M_{A_2} = 0 \tag{842}$$

$$M_{A_3} = 0 \tag{843}$$

$$M_{A_4} = 0 \tag{844}$$

$$M_{A_5} = 0 \tag{845}$$

$$M_{B_1} = 0 \tag{846}$$

$$M_{B_2} = 0 \tag{847}$$

$$M_{B_3} = 0 \tag{848}$$

$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 0 \tag{849}$$

$$T_5 = 0 \tag{850}$$

T_1	T_2	T_3	T_4	T_5
0	0	0	0	0

R_{Diff}	R_{Crea}	R
0	0	0

D – T012   Did Not Skip

T_1	T_2	T_3	T_4	T_5
R_{Diff}		R_{Crea}		R

Event Ranks

Team	R_{Diff}	Rank (Difficulty)	R_{Crea}	Rank (Creativity)	R	Ranksum	Rank (Ranksum)
T001	133.4493	9	106.25	9	239.6993	18	9
T002	187.9465	6	122.3215	8	310.268	14	8
T003	181.4872	8	136.3096	6	317.7967	14	7
T004	186.8443	7	151.0471	4	337.8914	11	6
T005	203.5881	5	152.0833	3	355.6714	8	3
T006	222.8011	4	140.4167	5	363.2178	9	5
T007	−32.6002	11	−122.0833	11	−154.6835	22	11
T008	290.1600	1	238.3929	1	528.5529	2	1
T009	288.5307	2	135.7143	7	424.245	9	4
T010	288.5307	2	159.0476	2	447.5783	4	2
T011	0	10	0	10	0	20	10
T012							

E Double Dutch Single Freestyle

$$round\,(x) = \frac{\lceil 10000x \rceil}{10000} \tag{851}$$

Presentation

The following abbreviations will be used

MoB	Music On Beat
UoM	Use of Music
Mov	Movement
FBE	Form of Body, Rope and Execution
Ori	Originality
OIm	Overall Impression

$$S_{A_x} = 0.5\left(A_{x_{MoB}} + A_{x_{UoM}}\right) + 0.5A_{x_{Mov}} + A_{x_{FBE}} + A_{x_{Ori}} + 0.5A_{x_{OIm}} \tag{852}$$

$$T_2 = round\left(5\frac{S_{A_a} + S_{A_b} + S_{A_c}}{3}\right) \tag{853}$$

Where the highest and lowest of the five presentation scores (S_{A_x}) are dropped before averaging the remaining three.

Required Elements

The following abbreviations will be used

Tu	Turner Involvement Skills
Sw	Turner/Jumper Switches
Gy	Gymnastics
Ae	Aerials
Sp	Speed Dances
Re	Releases

$$S_{B_x} = B_{x_{Sw}} + B_{x_{Gy}} + B_{x_{Ae}} + B_{x_{Sp}} + 2B_{x_{Re}} \tag{854}$$

$$\left(B_{x_{Gy}} + B_{x_{Ae}} > 3 \;\rightarrow\; S_{B_x} = S_{B_x} - \left(B_{x_{Gy}} + B_{x_{Ae}} - 3\right)\right) \tag{855}$$

$$\left(S_{B_x} > 10 \;\rightarrow\; S_{B_x} = 10\right) \tag{856}$$

$$S_{B_x} = S_{B_x} + B_{x_{Tu}} \tag{857}$$

$$T_3 = round\left(\frac{50}{16} \times \frac{S_{B_1} + S_{B_2} + S_{B_3}}{3}\right) \tag{858}$$

$$\left(T_3 > 50 \;\rightarrow\; T_3 = 50\right) \tag{859}$$

In equation (855) we ensure that the maximum ammount of gymnastics that points are given for is 3. by deducting the excess from the score, if gymnastics and aerials make up more than the maximum 3.

For example:

$$B_{x_{Gy}} = 2 \tag{860}$$

$$B_{x_{Ae}} = 2 \tag{861}$$

$$B_{x_{Gy}} + B_{x_{Ae}} = 4 \tag{862}$$

$$S_{B_x} = 4 \tag{863}$$

$$(4 > 3 \rightarrow S_{B_x} = 4 - (4 - 3)) \tag{864}$$

$$(4 > 3 \rightarrow S_{B_x} = 4 - 1) \tag{865}$$

$$S_{B_x} = 3 \tag{866}$$

Difficulty

$$l(x) = \frac{3}{1.5^{5-x}} \tag{867}$$

$$S_{D_{x_{Ly}}} = D_{x_{Ly}} \times l(y) \tag{868}$$

$$(S_{D_{x_{L4}}} > 30 \rightarrow S_{D_{x_{L3}}} = S_{D_{x_{L3}}} + (S_{D_{x_{L4}}} - 30)) \tag{869}$$

$$(S_{D_{x_{L4}}} > 30 \rightarrow S_{D_{x_{L4}}} = 30) \tag{870}$$

$$(S_{D_{x_{L3}}} > 20 \rightarrow S_{D_{x_{L2}}} = S_{D_{x_{L2}}} + (S_{D_{x_{L3}}} - 20) \& S_{D_{x_{L3}}} = 20) \tag{871}$$

$$(S_{D_{x_{L3}}} > 20 \rightarrow S_{D_{x_{L3}}} = 20) \tag{872}$$

$$(S_{D_{x_{L2}}} > 10 \rightarrow S_{D_{x_{L2}}} = 10) \tag{873}$$

$$S_{D_x} = S_{D_{x_{L2}}} + S_{D_{x_{L3}}} + S_{D_{x_{L4}}} + S_{D_{x_{L5}}} \tag{874}$$

$$T_1 = round\left(2.5\frac{S_{D_a} + S_{D_b} + S_{D_c}}{3}\right) \tag{875}$$

Where the highest and lowest of the five difficulty scores (S_{D_x}) are dropped before averaging the remaining three.

Creativity

$$T_4 = round\left(T_3 + T_2\right) \tag{876}$$

Misses

The following abbreviations will be used

Few $\mid$ Skippers that performed less than 3 skills

$$M_{HJ} = 12.5HJ_{Minor} + 25HJ_{Major} \tag{877}$$

$$M_{A_x} = 12.5A_{x_{Minor}} + 25A_{x_{Major}} \tag{878}$$

$$M_{B_x} = 12.5B_{x_{Minor}} + 25B_{x_{Major}} \tag{879}$$

$$T_5 = round\left(\frac{M_a + M_b + M_c + M_d + M_e + M_f + M_g}{7} + 12.5HJ_{Space} + 25\left(HJ_{Time} + HJ_{Feb}\right)\right) \tag{880}$$

Where the highest and lowest of the nine difficulty scores (M_x) are dropped before averaging the remaining seven.

Final

$$R_{Diff} = round\left(T_1 - \frac{T_5}{2}\right) \tag{881}$$

$$R_{Crea} = round\left(T_4 - \frac{T_5}{2}\right) \tag{882}$$

$$R = round\left(T_1 + T_4 - T_5\right) \tag{883}$$

E – T001　Nothing Special

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	5	5	5	5	5	5
A_2	5	5	5	5	5	5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	5	5	5	5	5	5

$$S_{A_1} = 20 \tag{884}$$
$$S_{A_2} = 20 \tag{885}$$
$$S_{A_3} = 20 \tag{886}$$
$$S_{A_4} = 20 \tag{887}$$
$$S_{A_5} = 20 \tag{888}$$
$$T_2 = 5\frac{20 + 20 + 20}{3} \tag{889}$$
$$T_2 = 100 \tag{890}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re
B_1	3	3	2	1	2	1
B_2	3	3	2	1	2	1
B_3	3	3	2	1	2	1

$$S_{B_1} = 13 \tag{891}$$
$$S_{B_2} = 13 \tag{892}$$
$$S_{B_3} = 13 \tag{893}$$
$$T_3 = \frac{50}{16} \times \frac{13 + 13 + 13}{3} \tag{894}$$
$$T_3 = 40.625 \tag{895}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	5	5	5	5
D_3	5	5	5	5
D_4	5	5	5	5
D_5	5	5	5	5

$$S_{D_1} = \left\{ \begin{matrix} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{matrix} \right\} = 36.1111 \tag{896}$$

$$S_{D_2} = \left\{ \begin{matrix} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{matrix} \right\} = 36.1111 \tag{897}$$

$$S_{D_3} = \left\{ \begin{matrix} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{matrix} \right\} = 36.1111 \tag{898}$$

$$S_{D_4} = \left\{ \begin{matrix} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{matrix} \right\} = 36.1111 \tag{899}$$

$$S_{D_5} = \left\{ \begin{matrix} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{matrix} \right\} = 36.1111 \tag{900}$$

$$T_1 = 2.5 \frac{36.1111 + 36.1111 + 36.1111}{3} \tag{901}$$

$$T_1 = 90.2778 \tag{902}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	1	1	1	1	1
A_1	1	1			
A_2	1	1			
A_3	1	1			
A_4	1	1			
A_5	1	1			
B_1	1	1			
B_2	1	1			
B_3	1	1			

$$M_H J = 37.5 \tag{903}$$
$$M_{A_1} = 37.5 \tag{904}$$
$$M_{A_2} = 37.5 \tag{905}$$
$$M_{A_3} = 37.5 \tag{906}$$
$$M_{A_4} = 37.5 \tag{907}$$
$$M_{A_5} = 37.5 \tag{908}$$
$$M_{B_1} = 37.5 \tag{909}$$
$$M_{B_2} = 37.5 \tag{910}$$
$$M_{B_3} = 37.5 \tag{911}$$
$$T_5 = \frac{37.5 + 37.5 + 37.5 + 37.5 + 37.5 + 37.5 + 37.5}{7} + 12.5 + 50 \tag{912}$$
$$T_5 = 100 \tag{913}$$

T_1	T_2	T_3	T_4	T_5
90.2778	100	40.625	140.625	100

R_{Diff}	R_{Crea}	R
40.2778	90.625	130.9028

E – T002   L3 cap, only minor misses

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	5	5	5	5	5	5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	0	0	0	0	0	0

$$S_{A_1} = 40 \tag{914}$$
$$S_{A_2} = 20 \tag{915}$$
$$S_{A_3} = 20 \tag{916}$$
$$S_{A_4} = 20 \tag{917}$$
$$S_{A_5} = 0 \tag{918}$$
$$T_2 = 5\frac{20 + 20 + 20}{3} \tag{919}$$
$$T_2 = 100 \tag{920}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re
B_1	5	2	2	1	2	1
B_2	5	2	2	1	2	1
B_3	5	2	2	1	2	1

$$S_{B_1} = 14 \tag{921}$$
$$S_{B_2} = 14 \tag{922}$$
$$S_{B_3} = 14 \tag{923}$$
$$T_3 = \frac{50}{16} \times \frac{14 + 14 + 14}{3} \tag{924}$$
$$T_3 = 43.75 \tag{925}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	5	16	5	5
D_3	5	16	5	5
D_4	5	16	5	5
D_5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{cases} = 36.1111 \tag{926}$$

$$S_{D_2} = \begin{cases} L2 & = & 5.7777 \\ L3 & = & 20 \\ L4 & = & 10 \\ L5 & = & 15 \end{cases} = 50.7777 \tag{927}$$

$$S_{D_3} = \begin{cases} L2 & = & 5.7777 \\ L3 & = & 20 \\ L4 & = & 10 \\ L5 & = & 15 \end{cases} = 50.7777 \tag{928}$$

$$S_{D_4} = \begin{cases} L2 & = & 5.7777 \\ L3 & = & 20 \\ L4 & = & 10 \\ L5 & = & 15 \end{cases} = 50.7777 \tag{929}$$

$$S_{D_5} = \begin{cases} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{cases} = 36.1111 \tag{930}$$

$$T_1 = 2.5 \frac{36.1111 + 50.7777 + 50.7777}{3} \tag{931}$$

$$T_1 = 114.7215 \tag{932}$$

Misses (T_5)

	Minor	Major	Time	Space	Few
HJ	4	0	0	0	0
A_1	3	0			
A_2	2	0			
A_3	1	0			
A_4	1	0			
A_5	1	0			
B_1	1	0			
B_2	1	0			
B_3	1	0			

$$M_H J = 50 \tag{933}$$

$$M_{A_1} = 37.5 \tag{934}$$

$$M_{A_2} = 25 \tag{935}$$

$$M_{A_3} = 12.5 \tag{936}$$

$$M_{A_4} = 12.5 \tag{937}$$

$$M_{A_5} = 12.5 \tag{938}$$

$$M_{B_1} = 12.5 \tag{939}$$

$$M_{B_2} = 12.5 \tag{940}$$

$$M_{B_3} = 12.5 \tag{941}$$

$$T_5 = \frac{12.5 + 12.5 + 12.5 + 12.5 + 12.5 + 25 + 37.5}{7} + 0 + 0 + 0 \tag{942}$$

$$T_5 = 17.8571 \tag{943}$$

T_1	T_2	T_3	T_4	T_5
114.7215	100	43.75	143.75	17.8571

R_{Diff}	R_{Crea}	R
105.7930	134.8215	240.6144

E – T003   No turner involvement, L3 cap capping L2, only major misses

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	0	0	0	0	0	0

$$S_{A_1} = 40 \tag{944}$$
$$S_{A_2} = 30 \tag{945}$$
$$S_{A_3} = 20 \tag{946}$$
$$S_{A_4} = 20 \tag{947}$$
$$S_{A_5} = 0 \tag{948}$$
$$T_2 = 5\frac{20 + 20 + 30}{3} \tag{949}$$
$$T_2 = 116.6667 \tag{950}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re
B_1	0	4	2	1	2	1
B_2	0	4	2	1	2	1
B_3	0	4	2	1	2	1

$$S_{B_1} = 10 \tag{951}$$
$$S_{B_2} = 10 \tag{952}$$
$$S_{B_3} = 10 \tag{953}$$
$$T_3 = \frac{50}{16} \times \frac{10 + 10 + 10}{3} \tag{954}$$
$$T_3 = 31.25 \tag{955}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	10	16	5	5
D_3	10	16	5	5
D_4	10	16	5	5
D_5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{956}$$

$$S_{D_2} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 55 \tag{957}$$

$$S_{D_3} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 55 \tag{958}$$

$$S_{D_4} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 55 \tag{959}$$

$$S_{D_5} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{960}$$

$$T_1 = 2.5\frac{36.1111 + 55 + 55}{3} \tag{961}$$

$$T_1 = 121.7593 \tag{962}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	0	4	0	0	0
A_1	0	3			
A_2	0	2			
A_3	0	1			
A_4	0	1			
A_5	0	1			
B_1	0	1			
B_2	0	1			
B_3	0	1			

$$M_H J = 100 \tag{963}$$

$$M_{A_1} = 75 \tag{964}$$

$$M_{A_2} = 50 \tag{965}$$

$$M_{A_3} = 25 \tag{966}$$

$$M_{A_4} = 25 \tag{967}$$

$$M_{A_5} = 25 \tag{968}$$

$$M_{B_1} = 25 \tag{969}$$

$$M_{B_2} = 25 \tag{970}$$

$$M_{B_3} = 25 \tag{971}$$

$$T_5 = \frac{25 + 25 + 25 + 25 + 25 + 50 + 75}{7} + 0 + 0 + 0 \tag{972}$$

$$T_5 = 35.7143 \tag{973}$$

T_1	T_2	T_3	T_4	T_5
121.7593	116.6667	31.25	147.9167	35.7143

R_{Diff}	R_{Crea}	R
103.7222	130.0596	233.7817

E – T004   Did Not Skip

T_1	T_2	T_3	T_4	T_5
R_{Diff}		R_{Crea}		R

E – T005   4 total gymnastics, L3 cap to capped L2, only Time miss

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	2.5	2.5	2.5	2.5	2.5	2.5
A_5	0	0	0	0	0	0

$$S_{A_1} = 40 \tag{974}$$
$$S_{A_2} = 30 \tag{975}$$
$$S_{A_3} = 20 \tag{976}$$
$$S_{A_4} = 10 \tag{977}$$
$$S_{A_5} = 0 \tag{978}$$
$$T_2 = 5\frac{10 + 20 + 30}{3} \tag{979}$$
$$T_2 = 100 \tag{980}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re
B_1	4	4	2	2	1	1
B_2	4	4	2	2	1	1
B_3	4	4	2	2	1	1

$$S_{B_1} = 14 \tag{981}$$
$$S_{B_2} = 14 \tag{982}$$
$$S_{B_3} = 14 \tag{983}$$
$$T_3 = \frac{50}{16} \times \frac{14 + 14 + 14}{3} \tag{984}$$
$$T_3 = 43.75 \tag{985}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	12	16	5	5
D_3	12	16	5	5
D_4	12	16	5	5
D_5	5	5	5	5

$$S_{D_1} = \left\{\begin{array}{lcr} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{array}\right\} = 36.1111 \tag{986}$$

$$S_{D_2} = \left\{\begin{array}{lcr} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 10 \\ L5 & = & 15 \end{array}\right\} = 55 \tag{987}$$

$$S_{D_3} = \left\{\begin{array}{lcr} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 10 \\ L5 & = & 15 \end{array}\right\} = 55 \tag{988}$$

$$S_{D_4} = \left\{\begin{array}{lcr} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 10 \\ L5 & = & 15 \end{array}\right\} = 55 \tag{989}$$

$$S_{D_5} = \left\{\begin{array}{lcr} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{array}\right\} = 36.1111 \tag{990}$$

$$T_1 = 2.5\frac{36.1111 + 55 + 55}{3} \tag{991}$$

$$T_1 = 121.7593 \tag{992}$$

Misses (T_5)

	Minor	Major	Time	Space	Few
HJ	0	0	1	0	0
A_1	0	0			
A_2	0	0			
A_3	0	0			
A_4	0	0			
A_5	0	0			
B_1	0	0			
B_2	0	0			
B_3	0	0			

$$M_H J = 0 \tag{993}$$
$$M_{A_1} = 0 \tag{994}$$
$$M_{A_2} = 0 \tag{995}$$
$$M_{A_3} = 0 \tag{996}$$
$$M_{A_4} = 0 \tag{997}$$
$$M_{A_5} = 0 \tag{998}$$
$$M_{B_1} = 0 \tag{999}$$
$$M_{B_2} = 0 \tag{1000}$$
$$M_{B_3} = 0 \tag{1001}$$
$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 25 + 0 + 0 \tag{1002}$$
$$T_5 = 25 \tag{1003}$$

T_1	T_2	T_3	T_4	T_5
121.7593	100	43.75	143.75	25

R_{Diff}	R_{Crea}	R
109.2595	131.25	240.5093

E − T006   More than 16 Required Elements, L4 cap, only Space miss

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	1	2	3	4	5	6
A_3	5	5	5	5	5	5
A_4	2.5	2.5	2.5	2.5	2.5	2.5
A_5	0	0	0	0	0	0

$$S_{A_1} = 40 \tag{1004}$$
$$S_{A_2} = 15 \tag{1005}$$
$$S_{A_3} = 20 \tag{1006}$$
$$S_{A_4} = 10 \tag{1007}$$
$$S_{A_5} = 0 \tag{1008}$$
$$T_2 = 5\frac{10 + 15 + 20}{3} \tag{1009}$$
$$T_2 = 75 \tag{1010}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re
B_1	8	3	2	1	1	1
B_2	8	3	2	1	1	1
B_3	8	3	2	1	1	1

$$S_{B_1} = 16 \tag{1011}$$
$$S_{B_2} = 16 \tag{1012}$$
$$S_{B_3} = 16 \tag{1013}$$
$$T_3 = \frac{50}{16} \times \frac{16 + 16 + 16}{3} \tag{1014}$$
$$T_3 = 50 \tag{1015}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	5	5	16	5
D_3	5	5	16	5
D_4	5	5	16	5
D_5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &= 4.4444 \\ L3 &= 6.6667 \\ L4 &= 10 \\ L5 &= 15 \end{cases} = 36.1111 \tag{1016}$$

$$S_{D_2} = \begin{cases} L2 &= 4.4444 \\ L3 &= 8.6667 \\ L4 &= 30 \\ L5 &= 15 \end{cases} = 58.1111 \tag{1017}$$

$$S_{D_3} = \begin{cases} L2 &= 4.4444 \\ L3 &= 8.6667 \\ L4 &= 30 \\ L5 &= 15 \end{cases} = 58.1111 \tag{1018}$$

$$S_{D_4} = \begin{cases} L2 &= 4.4444 \\ L3 &= 8.6667 \\ L4 &= 30 \\ L5 &= 15 \end{cases} = 58.1111 \tag{1019}$$

$$S_{D_5} = \begin{cases} L2 &= 4.4444 \\ L3 &= 6.6667 \\ L4 &= 10 \\ L5 &= 15 \end{cases} = 36.1111 \tag{1020}$$

$$T_1 = 2.5 \frac{36.1111 + 58.1111 + 58.1111}{3} \tag{1021}$$

$$T_1 = 126.9444 \tag{1022}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	0	0	0	1	0
A_1	0	0			
A_2	0	0			
A_3	0	0			
A_4	0	0			
A_5	0	0			
B_1	0	0			
B_2	0	0			
B_3	0	0			

$$M_H J = 0 \tag{1023}$$
$$M_{A_1} = 0 \tag{1024}$$
$$M_{A_2} = 0 \tag{1025}$$
$$M_{A_3} = 0 \tag{1026}$$
$$M_{A_4} = 0 \tag{1027}$$
$$M_{A_5} = 0 \tag{1028}$$
$$M_{B_1} = 0 \tag{1029}$$
$$M_{B_2} = 0 \tag{1030}$$
$$M_{B_3} = 0 \tag{1031}$$
$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 12.5 + 0 \tag{1032}$$
$$T_5 = 12.5 \tag{1033}$$

T_1	T_2	T_3	T_4	T_5
126.9444	75	50	125	12.5

R_{Diff}		R_{Crea}		R	
120.6944		118.75		239.4444	

E – T007   2 aerials, L4 cap capping L3, only less than three skills miss

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	1	2	3	4	5	6
A_3	0	0	0	0	0	0
A_4	2.5	2.5	2.5	2.5	2.5	2.5
A_5	6	5	4	3	2	1

$$S_{A_1} = 40 \tag{1034}$$
$$S_{A_2} = 15 \tag{1035}$$
$$S_{A_3} = 0 \tag{1036}$$
$$S_{A_4} = 10 \tag{1037}$$
$$S_{A_5} = 13 \tag{1038}$$
$$T_2 = 5\frac{10 + 13 + 15}{3} \tag{1039}$$
$$T_2 = 63.3333 \tag{1040}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re
B_1	6	4	1	2	1	1
B_2	6	4	1	2	2	1
B_3	6	4	1	2	1	1

$$S_{B_1} = 16 \tag{1041}$$
$$S_{B_2} = 16 \tag{1042}$$
$$S_{B_3} = 16 \tag{1043}$$
$$T_3 = \frac{50}{16} \times \frac{16 + 16 + 16}{3} \tag{1044}$$
$$T_3 = 50 \tag{1045}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	5	14	16	5
D_3	5	14	16	5
D_4	5	14	16	5
D_5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1046}$$

$$S_{D_2} = \begin{cases} L2 &=& 5.1111 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 70.1111 \tag{1047}$$

$$S_{D_3} = \begin{cases} L2 &=& 5.1111 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 70.1111 \tag{1048}$$

$$S_{D_4} = \begin{cases} L2 &=& 5.1111 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 70.1111 \tag{1049}$$

$$S_{D_5} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1050}$$

$$T_1 = 2.5\frac{36.1111 + 70.1111 + 70.1111}{3} \tag{1051}$$

$$T_1 = 146.9444 \tag{1052}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	0	0	0	0	2
A_1	0	0			
A_2	0	0			
A_3	0	0			
A_4	0	0			
A_5	0	0			
B_1	0	0			
B_2	0	0			
B_3	0	0			

$$M_H J = 0 \tag{1053}$$
$$M_{A_1} = 0 \tag{1054}$$
$$M_{A_2} = 0 \tag{1055}$$
$$M_{A_3} = 0 \tag{1056}$$
$$M_{A_4} = 0 \tag{1057}$$
$$M_{A_5} = 0 \tag{1058}$$
$$M_{B_1} = 0 \tag{1059}$$
$$M_{B_2} = 0 \tag{1060}$$
$$M_{B_3} = 0 \tag{1061}$$
$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 0 + 50 \tag{1062}$$
$$T_5 = 50 \tag{1063}$$

T_1	T_2	T_3	T_4	T_5
146.9444	63.3333	50	113.3333	50

R_{Diff}		R_{Crea}		R
121.9444		88.3333		210.2777

E – T008   3 aerials, L4 cap capping L3 capping L2, negative score, more than 500 in deductions

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	1	2	3	4	5	6
A_3	0	0	0	0	0	0
A_4	2	2	3	3	4	4
A_5	6	5	4	3	2	1

$$S_{A_1} = 40 \tag{1064}$$
$$S_{A_2} = 15 \tag{1065}$$
$$S_{A_3} = 0 \tag{1066}$$
$$S_{A_4} = 12.5 \tag{1067}$$
$$S_{A_5} = 13 \tag{1068}$$
$$T_2 = 5\frac{12.5 + 13 + 15}{3} \tag{1069}$$
$$T_2 = 67.5 \tag{1070}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re
B_1	1	4	0	3	1	1
B_2	1	4	0	3	1	1
B_3	1	4	0	3	1	1

$$S_{B_1} = 11 \tag{1071}$$
$$S_{B_2} = 11 \tag{1072}$$
$$S_{B_3} = 11 \tag{1073}$$
$$T_3 = \frac{50}{16} \times \frac{11 + 11 + 11}{3} \tag{1074}$$
$$T_3 = 34.375 \tag{1075}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	9	14	20	5
D_3	9	14	20	5
D_4	9	14	20	5
D_5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1076}$$

$$S_{D_2} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 75 \tag{1077}$$

$$S_{D_3} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 75 \tag{1078}$$

$$S_{D_4} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 75 \tag{1079}$$

$$S_{D_5} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1080}$$

$$T_1 = 2.5\frac{36.1111 + 75 + 75}{3} \tag{1081}$$

$$T_1 = 155.0926 \tag{1082}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	20	20	1	6	3
A_1	20	20			
A_2	20	20			
A_3	20	20			
A_4	20	20			
A_5	20	20			
B_1	20	20			
B_2	20	20			
B_3	20	20			

$$M_H J = 750 \tag{1083}$$
$$M_{A_1} = 750 \tag{1084}$$
$$M_{A_2} = 750 \tag{1085}$$
$$M_{A_3} = 750 \tag{1086}$$
$$M_{A_4} = 750 \tag{1087}$$
$$M_{A_5} = 750 \tag{1088}$$
$$M_{B_1} = 750 \tag{1089}$$
$$M_{B_2} = 750 \tag{1090}$$
$$M_{B_3} = 750 \tag{1091}$$
$$T_5 = \frac{750 + 750 + 750 + 750 + 750 + 750 + 750}{7} + 25 + 75 + 75 \tag{1092}$$
$$T_5 = 925 \tag{1093}$$

T_1	T_2	T_3	T_4	T_5
155.0926	67.5	34.375	101.875	925

R_{Diff}		R_{Crea}		R	
−307.4074		−360.625		−668.0324	

E – T009   L4 cap to capped L3, no misses, score over 500

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	10	10	10	10	10	10
A_3	10	10	10	10	10	10
A_4	10	10	10	10	10	10
A_5	10	10	10	10	10	10

$$S_{A_1} = 40 \tag{1094}$$
$$S_{A_2} = 40 \tag{1095}$$
$$S_{A_3} = 40 \tag{1096}$$
$$S_{A_4} = 40 \tag{1097}$$
$$S_{A_5} = 40 \tag{1098}$$
$$T_2 = 5\frac{40 + 40 + 40}{3} \tag{1099}$$
$$T_2 = 200 \tag{1100}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re
B_1	2	5	2	1	2	1
B_2	2	5	2	1	2	1
B_3	2	5	2	1	2	1

$$S_{B_1} = 12 \tag{1101}$$
$$S_{B_2} = 12 \tag{1102}$$
$$S_{B_3} = 12 \tag{1103}$$
$$T_3 = \frac{50}{16} \times \frac{12 + 12 + 12}{3} \tag{1104}$$
$$T_3 = 37.5 \tag{1105}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	5	16	16	30
D_3	5	16	16	30
D_4	5	16	16	30
D_5	5	5	5	5

$$S_{D_1} = \left.\begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases}\right\} = 36.1111 \tag{1106}$$

$$S_{D_2} = \left.\begin{cases} L2 &=& 7.7777 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 90 \end{cases}\right\} = 147.7777 \tag{1107}$$

$$S_{D_3} = \left.\begin{cases} L2 &=& 7.7777 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 90 \end{cases}\right\} = 147.7777 \tag{1108}$$

$$S_{D_4} = \left.\begin{cases} L2 &=& 7.7777 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 90 \end{cases}\right\} = 147.7777 \tag{1109}$$

$$S_{D_5} = \left.\begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases}\right\} = 36.1111 \tag{1110}$$

$$T_1 = 2.5\frac{36.1111 + 147.7777 + 147.7777}{3} \tag{1111}$$

$$T_1 = 276.3888 \tag{1112}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	0	0	0	0	0
A_1	0	0			
A_2	0	0			
A_3	0	0			
A_4	0	0			
A_5	0	0			
B_1	0	0			
B_2	0	0			
B_3	0	0			

$$M_H J = 0 \tag{1113}$$

$$M_{A_1} = 0 \tag{1114}$$

$$M_{A_2} = 0 \tag{1115}$$

$$M_{A_3} = 0 \tag{1116}$$

$$M_{A_4} = 0 \tag{1117}$$

$$M_{A_5} = 0 \tag{1118}$$

$$M_{B_1} = 0 \tag{1119}$$

$$M_{B_2} = 0 \tag{1120}$$

$$M_{B_3} = 0 \tag{1121}$$

$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 0 + 0 \tag{1122}$$

$$T_5 = 0 \tag{1123}$$

T_1	T_2	T_3	T_4	T_5
276.3888	200	37.5	237.5	0

R_{Diff}	R_{Crea}	R
276.3888	237.5	513.8888

E – T010   L4 cap to capped L3 capping L2

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	9	8	9	8	9	8
A_3	9	8	9	8	9	8
A_4	9	8	9	8	9	8
A_5	6	5	4	3	2	1

$$S_{A_1} = 40 \tag{1124}$$
$$S_{A_2} = 34 \tag{1125}$$
$$S_{A_3} = 34 \tag{1126}$$
$$S_{A_4} = 34 \tag{1127}$$
$$S_{A_5} = 13 \tag{1128}$$
$$T_2 = 5\frac{34 + 34 + 34}{3} \tag{1129}$$
$$T_2 = 170 \tag{1130}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re
B_1	4	3	2	1	2	1
B_2	3	4	2	1	2	1
B_3	2	5	2	1	2	1

$$S_{B_1} = 14 \tag{1131}$$
$$S_{B_2} = 13 \tag{1132}$$
$$S_{B_3} = 12 \tag{1133}$$
$$T_3 = \frac{50}{16} \times \frac{12 + 13 + 14}{3} \tag{1134}$$
$$T_3 = 40.625 \tag{1135}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	9	16	16	5
D_3	9	16	16	5
D_4	9	16	16	5
D_5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1136}$$

$$S_{D_2} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 75 \tag{1137}$$

$$S_{D_3} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 75 \tag{1138}$$

$$S_{D_4} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 75 \tag{1139}$$

$$S_{D_5} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1140}$$

$$T_1 = 2.5 \frac{36.1111 + 75 + 75}{3} \tag{1141}$$

$$T_1 = 155.0926 \tag{1142}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	1	5	0	0	0
A_1	2	4			
A_2	3	3			
A_3	4	2			
A_4	5	1			
A_5	4	2			
B_1	3	3			
B_2	2	4			
B_3	1	5			

$$M_H J = 137.5 \tag{1143}$$

$$M_{A_1} = 125 \tag{1144}$$

$$M_{A_2} = 112.5 \tag{1145}$$

$$M_{A_3} = 100 \tag{1146}$$

$$M_{A_4} = 87.5 \tag{1147}$$

$$M_{A_5} = 100 \tag{1148}$$

$$M_{B_1} = 112.5 \tag{1149}$$

$$M_{B_2} = 125 \tag{1150}$$

$$M_{B_3} = 137.5 \tag{1151}$$

$$T_5 = \frac{100 + 100 + 112.5 + 112.5 + 125 + 125 + 137.5}{7} + 0 + 0 + 0 \tag{1152}$$

$$T_5 = 116.0714 \tag{1153}$$

T_1	T_2	T_3	T_4	T_5
155.0926	170	40.625	210.625	116.0714

R_{Diff}		R_{Crea}		R	
97.0569		152.5893		249.6462	

E – T011   L4 cap to capped L3 to capped L2, 10.5 presentation

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	10.5	10.5	10.5	5	5	5
A_3	10.5	10.5	10.5	5	5	5
A_4	10.5	10.5	10.5	5	5	5
A_5	6	5	4	3	2	1

$$S_{A_1} = 40 \tag{1154}$$
$$S_{A_2} = 27.5 \tag{1155}$$
$$S_{A_3} = 27.5 \tag{1156}$$
$$S_{A_4} = 27.5 \tag{1157}$$
$$S_{A_5} = 13 \tag{1158}$$
$$T_2 = 5\frac{275. + 27.5 + 27.5}{3} \tag{1159}$$
$$T_2 = 137.5 \tag{1160}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re
B_1	5	3	2	1	2	1
B_2	4	3	2	1	2	1
B_3	3	3	2	1	2	1

$$S_{B_1} = 15 \tag{1161}$$
$$S_{B_2} = 14 \tag{1162}$$
$$S_{B_3} = 13 \tag{1163}$$
$$T_3 = \frac{50}{16} \times \frac{13 + 14 + 15}{3} \tag{1164}$$
$$T_3 = 43.75 \tag{1165}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	16	16	16	5
D_3	16	16	16	5
D_4	16	16	16	5
D_5	5	5	5	5

$$S_{D_1} = \begin{Bmatrix} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{Bmatrix} = 36.1111 \tag{1166}$$

$$S_{D_2} = \begin{Bmatrix} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 15 \end{Bmatrix} = 75 \tag{1167}$$

$$S_{D_3} = \begin{Bmatrix} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 15 \end{Bmatrix} = 75 \tag{1168}$$

$$S_{D_4} = \begin{Bmatrix} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 15 \end{Bmatrix} = 75 \tag{1169}$$

$$S_{D_5} = \begin{Bmatrix} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{Bmatrix} = 36.1111 \tag{1170}$$

$$T_1 = 2.5 \frac{36.1111 + 75 + 75}{3} \tag{1171}$$

$$T_1 = 155.0926 \tag{1172}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	5	5	0	0	0
A_1	4	4			
A_2	3	3			
A_3	2	2			
A_4	1	1			
A_5	2	2			
B_1	3	3			
B_2	4	4			
B_3	5	5			

$$M_H J = 187.5 \tag{1173}$$
$$M_{A_1} = 150 \tag{1174}$$
$$M_{A_2} = 112.5 \tag{1175}$$
$$M_{A_3} = 75 \tag{1176}$$
$$M_{A_4} = 37.5 \tag{1177}$$
$$M_{A_5} = 75 \tag{1178}$$
$$M_{B_1} = 112.5 \tag{1179}$$
$$M_{B_2} = 150 \tag{1180}$$
$$M_{B_3} = 187.5 \tag{1181}$$
$$T_5 = \frac{75 + 75 + 112.5 + 112.5 + 150 + 150 + 187.5}{7} + 0 + 0 + 0 \tag{1182}$$
$$T_5 = 123.2143 \tag{1183}$$

T_1	T_2	T_3	T_4	T_5
155.0926	137.5	43.75	181.25	123.2143

R_{Diff}		R_{Crea}		R	
93.4855		119.6429		213.1283	

E – T012   Total Score is Zero

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	0	0	0	0	0	0
A_2	0	0	0	0	0	0
A_3	0	0	0	0	0	0
A_4	0	0	0	0	0	0
A_5	0	0	0	0	0	0

$$S_{A_1} = 0 \tag{1184}$$
$$S_{A_2} = 0 \tag{1185}$$
$$S_{A_3} = 0 \tag{1186}$$
$$S_{A_4} = 0 \tag{1187}$$
$$S_{A_5} = 0 \tag{1188}$$
$$T_2 = 5\frac{0+0+0}{3} \tag{1189}$$
$$T_2 = 0 \tag{1190}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re
B_1	0	0	0	0	0	0
B_2	0	0	0	0	0	0
B_3	0	0	0	0	0	0

$$S_{B_1} = 0 \tag{1191}$$
$$S_{B_2} = 0 \tag{1192}$$
$$S_{B_3} = 0 \tag{1193}$$
$$T_3 = \frac{50}{16} \times \frac{0+0+0}{3} \tag{1194}$$
$$T_3 = 50 \tag{1195}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	0	0	0	0
D_2	0	0	0	0
D_3	0	0	0	0
D_4	0	0	0	0
D_5	0	0	0	0

$$S_{D_1} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \end{cases} = 0 \tag{1196}$$

$$S_{D_2} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \end{cases} = 0 \tag{1197}$$

$$S_{D_3} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \end{cases} = 0 \tag{1198}$$

$$S_{D_4} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \end{cases} = 0 \tag{1199}$$

$$S_{D_5} = \begin{cases} L2 &=& 0 \\ L3 &=& 0 \\ L4 &=& 0 \\ L5 &=& 0 \end{cases} = 0 \tag{1200}$$

$$T_1 = 2.5\frac{0+0+0}{3} \tag{1201}$$

$$T_1 = 0 \tag{1202}$$

Misses (T_5)

	Minor	Major	Time	Space	Few
HJ	0	0	0	0	0
A_1	0	0			
A_2	0	0			
A_3	0	0			
A_4	0	0			
A_5	0	0			
B_1	0	0			
B_2	0	0			
B_3	0	0			

$$M_H J = 0 \tag{1203}$$
$$M_{A_1} = 0 \tag{1204}$$
$$M_{A_2} = 0 \tag{1205}$$
$$M_{A_3} = 0 \tag{1206}$$
$$M_{A_4} = 0 \tag{1207}$$
$$M_{A_5} = 0 \tag{1208}$$
$$M_{B_1} = 0 \tag{1209}$$
$$M_{B_2} = 0 \tag{1210}$$
$$M_{B_3} = 0 \tag{1211}$$
$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 0 + 0 \tag{1212}$$
$$T_5 = 0 \tag{1213}$$

T_1	T_2	T_3	T_4	T_5
0	0	0	0	0

R_{Diff}	R_{Crea}	R
0	0	0

Event Ranks

Team	R_{Diff}	Rank (Difficulty)	R_{Crea}	Rank (Creativity)	R	Ranksum	Rank (Ranksum)
T001	40.2778	9	90.625	8	130.9028	17	9
T002	105.7930	5	134.8215	3	240.6144	8	2
T003	103.7222	6	130.0596	5	233.7817	11	6
T004							
T005	109.2595	4	131.25	4	240.5093	8	3
T006	120.6944	3	118.75	7	239.4444	10	5
T007	121.9444	2	83.3333	9	210.2777	11	7
T008	-307.4074	11	-360.625	11	-668.0324	22	11
T009	276.3888	1	237.5	1	513.8888	2	1
T010	97.0569	7	152.5893	2	249.6462	9	4
T011	93.4855	8	119.6429	6	213.1283	14	8
T012	0	10	0	10	0	20	10

F Double Dutch Pair Freestyle

$$round\,(x) = \frac{\lceil 10000x \rceil}{10000} \tag{1214}$$

Presentation

The following abbreviations will be used

MoB	Music On Beat
UoM	Use of Music
Mov	Movement
FBE	Form of Body, Rope and Execution
Ori	Originality
OIm	Overall Impression

$$S_{A_x} = 0.5\left(A_{x_{MoB}} + A_{x_{UoM}}\right) + 0.5A_{x_{Mov}} + A_{x_{FBE}} + A_{x_{Ori}} + 0.5A_{x_{OIm}} \tag{1215}$$

$$T_2 = round\left(5\frac{S_{A_a} + S_{A_b} + S_{A_c}}{3}\right) \tag{1216}$$

Where the highest and lowest of the five presentation scores (S_{A_x}) are dropped before averaging the remaining three.

Required Elements

The following abbreviations will be used

Tu	Turner Involvement Skills
Sw	Turner/Jumper Switches
Gy	Gymnastics
Ae	Aerials
Sp	Speed Dances
Re	Releases
In	Jumper Interactions

$$S_{B_x} = B_{x_{Sw}} + B_{x_{Gy}} + B_{x_{Ae}} + B_{x_{Sp}} + 2B_{x_{Re}} + B_{x_{In}} \tag{1217}$$

$$\left(B_{x_{Gy}} + B_{x_{Ae}} > 3 \;\rightarrow\; S_{B_x} = S_{B_x} - \left(B_{x_{Gy}} + B_{x_{Ae}} - 3\right)\right) \tag{1218}$$

$$\left(S_{B_x} > 10 \;\rightarrow\; S_{B_x} = 10\right) \tag{1219}$$

$$S_{B_x} = S_{B_x} + B_{x_{Tu}} \tag{1220}$$

$$T_3 = round\left(\frac{50}{16} \times \frac{S_{B_1} + S_{B_2} + S_{B_3}}{3}\right) \tag{1221}$$

$$\left(T_3 > 50 \;\rightarrow\; T_3 = 50\right) \tag{1222}$$

In equation (1218) we ensure that the maximum ammount of gymnastics that points are given for is 3. by deducting the excess from the score, if gymnastics and aerials make up more than the maximum 3.

For example:

$$B_{x_{Gy}} \;=\; 2 \tag{1223}$$

$$B_{x_{Ae}} \;=\; 2 \tag{1224}$$

$$B_{x_{Gy}} + B_{x_{Ae}} \;=\; 4 \tag{1225}$$

$$S_{B_x} \;=\; 4 \tag{1226}$$

$$(4 > 3 \;\;\rightarrow\;\; S_{B_x} = 4 - (4 - 3)) \tag{1227}$$

$$(4 > 3 \;\;\rightarrow\;\; S_{B_x} = 4 - 1) \tag{1228}$$

$$S_{B_x} \;=\; 3 \tag{1229}$$

Difficulty

$$l(x) \;=\; \frac{3}{1.5^{5-x}} \tag{1230}$$

$$S_{D_{x_{Ly}}} \;=\; D_{x_{Ly}} \times l(y) \tag{1231}$$

$$(S_{D_{x_{L4}}} > 30 \;\;\rightarrow\;\; S_{D_{x_{L3}}} = S_{D_{x_{L3}}} + (S_{D_{x_{L4}}} - 30)) \tag{1232}$$

$$(S_{D_{x_{L4}}} > 30 \;\;\rightarrow\;\; S_{D_{x_{L4}}} = 30) \tag{1233}$$

$$(S_{D_{x_{L3}}} > 20 \;\;\rightarrow\;\; S_{D_{x_{L2}}} = S_{D_{x_{L2}}} + (S_{D_{x_{L3}}} - 20)\,\&\,S_{D_{x_{L3}}} = 20) \tag{1234}$$

$$(S_{D_{x_{L3}}} > 20 \;\;\rightarrow\;\; S_{D_{x_{L3}}} = 20) \tag{1235}$$

$$(S_{D_{x_{L2}}} > 10 \;\;\rightarrow\;\; S_{D_{x_{L2}}} = 10) \tag{1236}$$

$$S_{D_x} \;=\; S_{D_{x_{L2}}} + S_{D_{x_{L3}}} + S_{D_{x_{L4}}} + S_{D_{x_{L5}}} \tag{1237}$$

$$T_1 \;=\; round\left(2.5\frac{S_{D_a} + S_{D_b} + S_{D_c}}{3}\right) \tag{1238}$$

Where the highest and lowest of the five difficulty scores (S_{D_x}) are dropped before averaging the remaining three.

Creativity

$$T_4 = round\,(T_3 + T_2) \tag{1239}$$

Misses

The following abbreviations will be used

$\quad$ Few $\;\vert\;$ Skippers that performed less than 3 skills

$$M_{HJ} \;=\; 12.5 HJ_{Minor} + 25 HJ_{Major} \tag{1240}$$

$$M_{A_x} \;=\; 12.5 A_{x_{Minor}} + 25 A_{x_{Major}} \tag{1241}$$

$$M_{B_x} \;=\; 12.5 B_{x_{Minor}} + 25 B_{x_{Major}} \tag{1242}$$

$$T_5 \;=\; round\left(\frac{M_a + M_b + M_c + M_d + M_e + M_f + M_g}{7} + 12.5 HJ_{Space} + 25\,(HJ_{Time} + HJ_{Flow})\right) \tag{1243}$$

Where the highest and lowest of the nine difficulty scores (M_x) are dropped before averaging the remaining seven.

Final

$$R_{Diff} = round\left(T_1 - \frac{T_5}{2}\right) \tag{1244}$$

$$R_{Crea} = round\left(T_4 - \frac{T_5}{2}\right) \tag{1245}$$

$$R = round\left(T_1 + T_4 - T_5\right) \tag{1246}$$

F – T001   Nothing Special

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	5	5	5	5	5	5
A_2	5	5	5	5	5	5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	5	5	5	5	5	5

$$S_{A_1} = 20 \tag{1247}$$
$$S_{A_2} = 20 \tag{1248}$$
$$S_{A_3} = 20 \tag{1249}$$
$$S_{A_4} = 20 \tag{1250}$$
$$S_{A_5} = 20 \tag{1251}$$
$$T_2 = 5\frac{20 + 20 + 20}{3} \tag{1252}$$
$$T_2 = 100 \tag{1253}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re	In
B_1	3	2	2	1	2	1	2
B_2	3	2	2	1	2	1	2
B_3	3	2	2	1	2	1	2

$$S_{B_1} = 13 \tag{1254}$$
$$S_{B_2} = 13 \tag{1255}$$
$$S_{B_3} = 13 \tag{1256}$$
$$T_3 = \frac{50}{16} \times \frac{13 + 13 + 13}{3} \tag{1257}$$
$$T_3 = 40.625 \tag{1258}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	5	5	5	5
D_3	5	5	5	5
D_4	5	5	5	5
D_5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1259}$$

$$S_{D_2} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1260}$$

$$S_{D_3} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1261}$$

$$S_{D_4} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1262}$$

$$S_{D_5} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1263}$$

$$T_1 = 2.5\frac{36.1111 + 36.1111 + 36.1111}{3} \tag{1264}$$

$$T_1 = 90.2778 \tag{1265}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	1	1	1	1	1
A_1	1	1			
A_2	1	1			
A_3	1	1			
A_4	1	1			
A_5	1	1			
B_1	1	1			
B_2	1	1			
B_3	1	1			

$$M_H J = 37.5 \tag{1266}$$

$$M_{A_1} = 37.5 \tag{1267}$$

$$M_{A_2} = 37.5 \tag{1268}$$

$$M_{A_3} = 37.5 \tag{1269}$$

$$M_{A_4} = 37.5 \tag{1270}$$

$$M_{A_5} = 37.5 \tag{1271}$$

$$M_{B_1} = 37.5 \tag{1272}$$

$$M_{B_2} = 37.5 \tag{1273}$$

$$M_{B_3} = 37.5 \tag{1274}$$

$$T_5 = \frac{37.5 + 37.5 + 37.5 + 37.5 + 37.5 + 37.5 + 37.5}{7} + 12.5 + 50 \tag{1275}$$

$$T_5 = 100 \tag{1276}$$

T_1	T_2	T_3	T_4	T_5
90.2778	100	40.625	140.625	100

R_{Diff}	R_{Crea}	R
40.2778	90.625	130.9028

F – T002   No interactions, L3 cap, only minor misses

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	5	5	5	5	5	5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	0	0	0	0	0	0

$$S_{A_1} = 40 \tag{1277}$$
$$S_{A_2} = 20 \tag{1278}$$
$$S_{A_3} = 20 \tag{1279}$$
$$S_{A_4} = 20 \tag{1280}$$
$$S_{A_5} = 0 \tag{1281}$$
$$T_2 = 5\frac{20 + 20 + 20}{3} \tag{1282}$$
$$T_2 = 100 \tag{1283}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re	In
B_1	5	2	2	1	2	1	0
B_2	5	2	2	1	2	1	0
B_3	5	2	2	1	2	1	0

$$S_{B_1} = 14 \tag{1284}$$
$$S_{B_2} = 14 \tag{1285}$$
$$S_{B_3} = 14 \tag{1286}$$
$$T_3 = \frac{50}{16} \times \frac{14 + 14 + 14}{3} \tag{1287}$$
$$T_3 = 43.75 \tag{1288}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	5	16	5	5
D_3	5	16	5	5
D_4	5	16	5	5
D_5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &= 4.4444 \\ L3 &= 6.6667 \\ L4 &= 10 \\ L5 &= 15 \end{cases} = 36.1111 \tag{1289}$$

$$S_{D_2} = \begin{cases} L2 &= 5.7777 \\ L3 &= 20 \\ L4 &= 10 \\ L5 &= 15 \end{cases} = 50.7777 \tag{1290}$$

$$S_{D_3} = \begin{cases} L2 &= 5.7777 \\ L3 &= 20 \\ L4 &= 10 \\ L5 &= 15 \end{cases} = 50.7777 \tag{1291}$$

$$S_{D_4} = \begin{cases} L2 &= 5.7777 \\ L3 &= 20 \\ L4 &= 10 \\ L5 &= 15 \end{cases} = 50.7777 \tag{1292}$$

$$S_{D_5} = \begin{cases} L2 &= 4.4444 \\ L3 &= 6.6667 \\ L4 &= 10 \\ L5 &= 15 \end{cases} = 36.1111 \tag{1293}$$

$$T_1 = 2.5\frac{36.1111 + 50.7777 + 50.7777}{3} \tag{1294}$$

$$T_1 = 114.7215 \tag{1295}$$

Misses (T_5)

	Minor	Major	Time	Space	Few
HJ	4	0	0	0	0
A_1	3	0			
A_2	2	0			
A_3	1	0			
A_4	1	0			
A_5	1	0			
B_1	1	0			
B_2	1	0			
B_3	1	0			

$$M_H J = 50 \tag{1296}$$

$$M_{A_1} = 37.5 \tag{1297}$$

$$M_{A_2} = 25 \tag{1298}$$

$$M_{A_3} = 12.5 \tag{1299}$$

$$M_{A_4} = 12.5 \tag{1300}$$

$$M_{A_5} = 12.5 \tag{1301}$$

$$M_{B_1} = 12.5 \tag{1302}$$

$$M_{B_2} = 12.5 \tag{1303}$$

$$M_{B_3} = 12.5 \tag{1304}$$

$$T_5 = \frac{12.5 + 12.5 + 12.5 + 12.5 + 12.5 + 25 + 37.5}{7} + 0 + 0 + 0 \tag{1305}$$

$$T_5 = 17.8571 \tag{1306}$$

T_1	T_2	T_3	T_4	T_5
114.7215	100	43.75	143.75	17.8571

R_{Diff}	R_{Crea}	R
105.7930	134.8215	240.6144

F – T003   No turner involvement, L3 cap capping L2, only major misses

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	5	5	5	5	5	5
A_5	0	0	0	0	0	0

$$S_{A_1} = 40 \tag{1307}$$
$$S_{A_2} = 30 \tag{1308}$$
$$S_{A_3} = 20 \tag{1309}$$
$$S_{A_4} = 20 \tag{1310}$$
$$S_{A_5} = 0 \tag{1311}$$
$$T_2 = 5\frac{20 + 20 + 30}{3} \tag{1312}$$
$$T_2 = 116.6667 \tag{1313}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re	In
B_1	0	4	2	1	2	1	2
B_2	0	4	2	1	2	1	2
B_3	0	4	2	1	2	1	2

$$S_{B_1} = 10 \tag{1314}$$
$$S_{B_2} = 10 \tag{1315}$$
$$S_{B_3} = 10 \tag{1316}$$
$$T_3 = \frac{50}{16} \times \frac{10 + 10 + 10}{3} \tag{1317}$$
$$T_3 = 31.25 \tag{1318}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	10	16	5	5
D_3	10	16	5	5
D_4	10	16	5	5
D_5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &= &4.4444 \\ L3 &= &6.6667 \\ L4 &= &10 \\ L5 &= &15 \end{cases} = 36.1111 \tag{1319}$$

$$S_{D_2} = \begin{cases} L2 &= &10 \\ L3 &= &20 \\ L4 &= &10 \\ L5 &= &15 \end{cases} = 55 \tag{1320}$$

$$S_{D_3} = \begin{cases} L2 &= &10 \\ L3 &= &20 \\ L4 &= &10 \\ L5 &= &15 \end{cases} = 55 \tag{1321}$$

$$S_{D_4} = \begin{cases} L2 &= &10 \\ L3 &= &20 \\ L4 &= &10 \\ L5 &= &15 \end{cases} = 55 \tag{1322}$$

$$S_{D_5} = \begin{cases} L2 &= &4.4444 \\ L3 &= &6.6667 \\ L4 &= &10 \\ L5 &= &15 \end{cases} = 36.1111 \tag{1323}$$

$$T_1 = 2.5\frac{36.1111 + 55 + 55}{3} \tag{1324}$$

$$T_1 = 121.7593 \tag{1325}$$

Misses (T_5)

	Minor	Major	Time	Space	Few
HJ	0	4	0	0	0
A_1	0	3			
A_2	0	2			
A_3	0	1			
A_4	0	1			
A_5	0	1			
B_1	0	1			
B_2	0	1			
B_3	0	1			

$$M_H J = 100 \tag{1326}$$

$$M_{A_1} = 75 \tag{1327}$$

$$M_{A_2} = 50 \tag{1328}$$

$$M_{A_3} = 25 \tag{1329}$$

$$M_{A_4} = 25 \tag{1330}$$

$$M_{A_5} = 25 \tag{1331}$$

$$M_{B_1} = 25 \tag{1332}$$

$$M_{B_2} = 25 \tag{1333}$$

$$M_{B_3} = 25 \tag{1334}$$

$$T_5 = \frac{25 + 25 + 25 + 25 + 25 + 50 + 75}{7} + 0 + 0 + 0 \tag{1335}$$

$$T_5 = 35.7143 \tag{1336}$$

T_1	T_2	T_3	T_4	T_5
121.7593	116.6667	31.25	147.9167	35.7143

R_{Diff}	R_{Crea}	R
103.7222	130.0596	233.7817

F – T004   4 total gymnastics, L3 cap to capped L2, only Time miss

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	7.5	7.5	7.5	7.5	7.5	7.5
A_3	5	5	5	5	5	5
A_4	2.5	2.5	2.5	2.5	2.5	2.5
A_5	0	0	0	0	0	0

$$S_{A_1} = 40 \tag{1337}$$
$$S_{A_2} = 30 \tag{1338}$$
$$S_{A_3} = 20 \tag{1339}$$
$$S_{A_4} = 10 \tag{1340}$$
$$S_{A_5} = 0 \tag{1341}$$
$$T_2 = 5\frac{10 + 20 + 30}{3} \tag{1342}$$
$$T_2 = 100 \tag{1343}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re	In
B_1	4	3	2	2	1	1	1
B_2	4	3	2	2	1	1	1
B_3	4	3	2	2	1	1	1

$$S_{B_1} = 14 \tag{1344}$$
$$S_{B_2} = 14 \tag{1345}$$
$$S_{B_3} = 14 \tag{1346}$$
$$T_3 = \frac{50}{16} \times \frac{14 + 14 + 14}{3} \tag{1347}$$
$$T_3 = 43.75 \tag{1348}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	12	16	5	5
D_3	12	16	5	5
D_4	12	16	5	5
D_5	5	5	5	5

$$S_{D_1} = \begin{Bmatrix} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{Bmatrix} = 36.1111 \tag{1349}$$

$$S_{D_2} = \begin{Bmatrix} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 10 \\ L5 &=& 15 \end{Bmatrix} = 55 \tag{1350}$$

$$S_{D_3} = \begin{Bmatrix} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 10 \\ L5 &=& 15 \end{Bmatrix} = 55 \tag{1351}$$

$$S_{D_4} = \begin{Bmatrix} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 10 \\ L5 &=& 15 \end{Bmatrix} = 55 \tag{1352}$$

$$S_{D_5} = \begin{Bmatrix} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{Bmatrix} = 36.1111 \tag{1353}$$

$$T_1 = 2.5\frac{36.1111 + 55 + 55}{3} \tag{1354}$$

$$T_1 = 121.7593 \tag{1355}$$

Misses (T_5)

	Minor	Major	Time	Space	Few
HJ	0	0	1	0	0
A_1	0	0			
A_2	0	0			
A_3	0	0			
A_4	0	0			
A_5	0	0			
B_1	0	0			
B_2	0	0			
B_3	0	0			

$$M_H J = 0 \tag{1356}$$
$$M_{A_1} = 0 \tag{1357}$$
$$M_{A_2} = 0 \tag{1358}$$
$$M_{A_3} = 0 \tag{1359}$$
$$M_{A_4} = 0 \tag{1360}$$
$$M_{A_5} = 0 \tag{1361}$$
$$M_{B_1} = 0 \tag{1362}$$
$$M_{B_2} = 0 \tag{1363}$$
$$M_{B_3} = 0 \tag{1364}$$
$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 25 + 0 + 0 \tag{1365}$$
$$T_5 = 25 \tag{1366}$$

T_1	T_2	T_3	T_4	T_5
121.7593	100	43.75	143.75	25

R_{Diff}	R_{Crea}	R
109.2595	131.25	240.5093

F – T005   More than 16 Required Elements, L4 cap, only Space miss

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	1	2	3	4	5	6
A_3	5	5	5	5	5	5
A_4	2.5	2.5	2.5	2.5	2.5	2.5
A_5	0	0	0	0	0	0

$$S_{A_1} = 40 \tag{1367}$$
$$S_{A_2} = 15 \tag{1368}$$
$$S_{A_3} = 20 \tag{1369}$$
$$S_{A_4} = 10 \tag{1370}$$
$$S_{A_5} = 0 \tag{1371}$$
$$T_2 = 5\frac{10 + 15 + 20}{3} \tag{1372}$$
$$T_2 = 75 \tag{1373}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re	In
B_1	8	3	2	1	1	1	1
B_2	8	3	2	1	1	1	1
B_3	8	3	2	1	1	1	1

$$S_{B_1} = 16 \tag{1374}$$
$$S_{B_2} = 16 \tag{1375}$$
$$S_{B_3} = 16 \tag{1376}$$
$$T_3 = \frac{50}{16} \times \frac{16 + 16 + 16}{3} \tag{1377}$$
$$T_3 = 50 \tag{1378}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	5	5	16	5
D_3	5	5	16	5
D_4	5	5	16	5
D_5	5	5	5	5

$$S_{D_1} = \left\{ \begin{array}{lcr} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{array} \right\} = 36.1111 \tag{1379}$$

$$S_{D_2} = \left\{ \begin{array}{lcr} L2 & = & 4.4444 \\ L3 & = & 8.6667 \\ L4 & = & 30 \\ L5 & = & 15 \end{array} \right\} = 58.1111 \tag{1380}$$

$$S_{D_3} = \left\{ \begin{array}{lcr} L2 & = & 4.4444 \\ L3 & = & 8.6667 \\ L4 & = & 30 \\ L5 & = & 15 \end{array} \right\} = 58.1111 \tag{1381}$$

$$S_{D_4} = \left\{ \begin{array}{lcr} L2 & = & 4.4444 \\ L3 & = & 8.6667 \\ L4 & = & 30 \\ L5 & = & 15 \end{array} \right\} = 58.1111 \tag{1382}$$

$$S_{D_5} = \left\{ \begin{array}{lcr} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{array} \right\} = 36.1111 \tag{1383}$$

$$T_1 = 2.5\frac{36.1111 + 58.1111 + 58.1111}{3} \tag{1384}$$

$$T_1 = 126.9444 \tag{1385}$$

Misses (T_5)

	Minor	Major	Time	Space	Few
HJ	0	0	0	1	0
A_1	0	0			
A_2	0	0			
A_3	0	0			
A_4	0	0			
A_5	0	0			
B_1	0	0			
B_2	0	0			
B_3	0	0			

$$M_H J = 0 \tag{1386}$$
$$M_{A_1} = 0 \tag{1387}$$
$$M_{A_2} = 0 \tag{1388}$$
$$M_{A_3} = 0 \tag{1389}$$
$$M_{A_4} = 0 \tag{1390}$$
$$M_{A_5} = 0 \tag{1391}$$
$$M_{B_1} = 0 \tag{1392}$$
$$M_{B_2} = 0 \tag{1393}$$
$$M_{B_3} = 0 \tag{1394}$$
$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 12.5 + 0 \tag{1395}$$
$$T_5 = 12.5 \tag{1396}$$

T_1	T_2	T_3	T_4	T_5
126.9444	75	50	125	12.5

R_{Diff}		R_{Crea}		R	
120.6944		118.75		239.4444	

F – T006   Did Not Skip

T_1	T_2	T_3	T_4	T_5
R_{Diff}		R_{Crea}		R

F – T007   2 aerials, L4 cap capping L3, only less than three skills miss

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	1	2	3	4	5	6
A_3	0	0	0	0	0	0
A_4	2.5	2.5	2.5	2.5	2.5	2.5
A_5	6	5	4	3	2	1

$$S_{A_1} = 40 \tag{1397}$$
$$S_{A_2} = 15 \tag{1398}$$
$$S_{A_3} = 0 \tag{1399}$$
$$S_{A_4} = 10 \tag{1400}$$
$$S_{A_5} = 13 \tag{1401}$$
$$T_2 = 5\frac{10 + 13 + 15}{3} \tag{1402}$$
$$T_2 = 63.3333 \tag{1403}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re	In
B_1	6	3	1	2	1	1	1
B_2	6	3	1	2	2	1	1
B_3	6	3	1	2	1	1	1

$$S_{B_1} = 16 \tag{1404}$$
$$S_{B_2} = 16 \tag{1405}$$
$$S_{B_3} = 16 \tag{1406}$$
$$T_3 = \frac{50}{16} \times \frac{16 + 16 + 16}{3} \tag{1407}$$
$$T_3 = 50 \tag{1408}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	5	14	16	5
D_3	5	14	16	5
D_4	5	14	16	5
D_5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1409}$$

$$S_{D_2} = \begin{cases} L2 &=& 5.1111 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 70.1111 \tag{1410}$$

$$S_{D_3} = \begin{cases} L2 &=& 5.1111 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 70.1111 \tag{1411}$$

$$S_{D_4} = \begin{cases} L2 &=& 5.1111 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 70.1111 \tag{1412}$$

$$S_{D_5} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1413}$$

$$T_1 = 2.5\frac{36.1111 + 70.1111 + 70.1111}{3} \tag{1414}$$

$$T_1 = 146.9444 \tag{1415}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	0	0	0	0	2
A_1	0	0			
A_2	0	0			
A_3	0	0			
A_4	0	0			
A_5	0	0			
B_1	0	0			
B_2	0	0			
B_3	0	0			

$$M_H J = 0 \tag{1416}$$
$$M_{A_1} = 0 \tag{1417}$$
$$M_{A_2} = 0 \tag{1418}$$
$$M_{A_3} = 0 \tag{1419}$$
$$M_{A_4} = 0 \tag{1420}$$
$$M_{A_5} = 0 \tag{1421}$$
$$M_{B_1} = 0 \tag{1422}$$
$$M_{B_2} = 0 \tag{1423}$$
$$M_{B_3} = 0 \tag{1424}$$
$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 0 + 50 \tag{1425}$$
$$T_5 = 50 \tag{1426}$$

T_1	T_2	T_3	T_4	T_5
146.9444	63.3333	50	113.3333	50

R_{Diff}		R_{Crea}		R	
121.9444		88.3333		210.2777	

F – T008   3 aerials, L4 cap capping L3 capping L2, negative score, more than 500 in deductions

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	1	2	3	4	5	6
A_3	0	0	0	0	0	0
A_4	2	2	3	3	4	4
A_5	6	5	4	3	2	1

$$S_{A_1} = 40 \tag{1427}$$
$$S_{A_2} = 15 \tag{1428}$$
$$S_{A_3} = 0 \tag{1429}$$
$$S_{A_4} = 12.5 \tag{1430}$$
$$S_{A_5} = 13 \tag{1431}$$
$$T_2 = 5\frac{12.5 + 13 + 15}{3} \tag{1432}$$
$$T_2 = 67.5 \tag{1433}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re	In
B_1	1	2	0	3	1	1	2
B_2	1	2	0	3	1	1	2
B_3	1	2	0	3	1	1	2

$$S_{B_1} = 11 \tag{1434}$$
$$S_{B_2} = 11 \tag{1435}$$
$$S_{B_3} = 11 \tag{1436}$$
$$T_3 = \frac{50}{16} \times \frac{11 + 11 + 11}{3} \tag{1437}$$
$$T_3 = 34.375 \tag{1438}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	9	14	20	5
D_3	9	14	20	5
D_4	9	14	20	5
D_5	5	5	5	5

$$S_{D_1} = \left\{ \begin{array}{rcr} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{array} \right\} = 36.1111 \tag{1439}$$

$$S_{D_2} = \left\{ \begin{array}{rcr} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 15 \end{array} \right\} = 75 \tag{1440}$$

$$S_{D_3} = \left\{ \begin{array}{rcr} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 15 \end{array} \right\} = 75 \tag{1441}$$

$$S_{D_4} = \left\{ \begin{array}{rcr} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 15 \end{array} \right\} = 75 \tag{1442}$$

$$S_{D_5} = \left\{ \begin{array}{rcr} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{array} \right\} = 36.1111 \tag{1443}$$

$$T_1 = 2.5 \frac{36.1111 + 75 + 75}{3} \tag{1444}$$

$$T_1 = 155.0926 \tag{1445}$$

Misses (T_5)

	Minor	Major	Time	Space	Few
HJ	20	20	1	6	4
A_1	20	20			
A_2	20	20			
A_3	20	20			
A_4	20	20			
A_5	20	20			
B_1	20	20			
B_2	20	20			
B_3	20	20			

$$M_H J = 750 \tag{1446}$$

$$M_{A_1} = 750 \tag{1447}$$

$$M_{A_2} = 750 \tag{1448}$$

$$M_{A_3} = 750 \tag{1449}$$

$$M_{A_4} = 750 \tag{1450}$$

$$M_{A_5} = 750 \tag{1451}$$

$$M_{B_1} = 750 \tag{1452}$$

$$M_{B_2} = 750 \tag{1453}$$

$$M_{B_3} = 750 \tag{1454}$$

$$T_5 = \frac{750 + 750 + 750 + 750 + 750 + 750 + 750}{7} + 25 + 75 + 100 \tag{1455}$$

$$T_5 = 950 \tag{1456}$$

T_1	T_2	T_3	T_4	T_5
155.0926	67.5	34.375	101.875	950

R_{Diff}	R_{Crea}	R
−319.9074	−373.125	−693.0324

F – T009　L4 cap to capped L3, no misses, score over 500

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	10	10	10	10	10	10
A_3	10	10	10	10	10	10
A_4	10	10	10	10	10	10
A_5	10	10	10	10	10	10

$$S_{A_1} = 40 \tag{1457}$$
$$S_{A_2} = 40 \tag{1458}$$
$$S_{A_3} = 40 \tag{1459}$$
$$S_{A_4} = 40 \tag{1460}$$
$$S_{A_5} = 40 \tag{1461}$$
$$T_2 = 5\frac{40 + 40 + 40}{3} \tag{1462}$$
$$T_2 = 200 \tag{1463}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re	In
B_1	2	5	2	1	2	1	2
B_2	2	5	2	1	2	1	2
B_3	2	5	2	1	2	1	2

$$S_{B_1} = 12 \tag{1464}$$
$$S_{B_2} = 12 \tag{1465}$$
$$S_{B_3} = 12 \tag{1466}$$
$$T_3 = \frac{50}{16} \times \frac{12 + 12 + 12}{3} \tag{1467}$$
$$T_3 = 37.5 \tag{1468}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	5	16	16	30
D_3	5	16	16	30
D_4	5	16	16	30
D_5	5	5	5	5

$$S_{D_1} = \left.\begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases}\right\} = 36.1111 \tag{1469}$$

$$S_{D_2} = \left.\begin{cases} L2 &=& 7.7777 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 90 \end{cases}\right\} = 147.7777 \tag{1470}$$

$$S_{D_3} = \left.\begin{cases} L2 &=& 7.7777 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 90 \end{cases}\right\} = 147.7777 \tag{1471}$$

$$S_{D_4} = \left.\begin{cases} L2 &=& 7.7777 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 90 \end{cases}\right\} = 147.7777 \tag{1472}$$

$$S_{D_5} = \left.\begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases}\right\} = 36.1111 \tag{1473}$$

$$T_1 = 2.5\frac{36.1111 + 147.7777 + 147.7777}{3} \tag{1474}$$

$$T_1 = 276.3888 \tag{1475}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	0	0	0	0	0
A_1	0	0			
A_2	0	0			
A_3	0	0			
A_4	0	0			
A_5	0	0			
B_1	0	0			
B_2	0	0			
B_3	0	0			

$$M_H J = 0 \tag{1476}$$
$$M_{A_1} = 0 \tag{1477}$$
$$M_{A_2} = 0 \tag{1478}$$
$$M_{A_3} = 0 \tag{1479}$$
$$M_{A_4} = 0 \tag{1480}$$
$$M_{A_5} = 0 \tag{1481}$$
$$M_{B_1} = 0 \tag{1482}$$
$$M_{B_2} = 0 \tag{1483}$$
$$M_{B_3} = 0 \tag{1484}$$
$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 0 + 0 \tag{1485}$$
$$T_5 = 0 \tag{1486}$$

T_1	T_2	T_3	T_4	T_5
276.3888	200	37.5	237.5	0

R_{Diff}		R_{Crea}		R	
276.3888		237.5		513.8888	

F – T010   L4 cap to capped L3 capping L2

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	9	8	9	8	9	8
A_3	9	8	9	8	9	8
A_4	9	8	9	8	9	8
A_5	6	5	4	3	2	1

$$S_{A_1} = 40 \tag{1487}$$
$$S_{A_2} = 34 \tag{1488}$$
$$S_{A_3} = 34 \tag{1489}$$
$$S_{A_4} = 34 \tag{1490}$$
$$S_{A_5} = 13 \tag{1491}$$
$$T_2 = 5\frac{34 + 34 + 34}{3} \tag{1492}$$
$$T_2 = 170 \tag{1493}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re	In
B_1	4	3	2	1	2	1	2
B_2	3	4	2	1	2	1	2
B_3	2	5	2	1	2	1	2

$$S_{B_1} = 14 \tag{1494}$$
$$S_{B_2} = 13 \tag{1495}$$
$$S_{B_3} = 12 \tag{1496}$$
$$T_3 = \frac{50}{16} \times \frac{12 + 13 + 14}{3} \tag{1497}$$
$$T_3 = 40.625 \tag{1498}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	9	16	16	5
D_3	9	16	16	5
D_4	9	16	16	5
D_5	5	5	5	5

$$S_{D_1} = \begin{Bmatrix} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{Bmatrix} = 36.1111 \tag{1499}$$

$$S_{D_2} = \begin{Bmatrix} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 15 \end{Bmatrix} = 75 \tag{1500}$$

$$S_{D_3} = \begin{Bmatrix} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 15 \end{Bmatrix} = 75 \tag{1501}$$

$$S_{D_4} = \begin{Bmatrix} L2 & = & 10 \\ L3 & = & 20 \\ L4 & = & 30 \\ L5 & = & 15 \end{Bmatrix} = 75 \tag{1502}$$

$$S_{D_5} = \begin{Bmatrix} L2 & = & 4.4444 \\ L3 & = & 6.6667 \\ L4 & = & 10 \\ L5 & = & 15 \end{Bmatrix} = 36.1111 \tag{1503}$$

$$T_1 = 2.5\frac{36.1111 + 75 + 75}{3} \tag{1504}$$

$$T_1 = 155.0926 \tag{1505}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	1	5	0	0	0
A_1	2	4			
A_2	3	3			
A_3	4	2			
A_4	5	1			
A_5	4	2			
B_1	3	3			
B_2	2	4			
B_3	1	5			

$$M_H J = 137.5 \tag{1506}$$

$$M_{A_1} = 125 \tag{1507}$$

$$M_{A_2} = 112.5 \tag{1508}$$

$$M_{A_3} = 100 \tag{1509}$$

$$M_{A_4} = 87.5 \tag{1510}$$

$$M_{A_5} = 100 \tag{1511}$$

$$M_{B_1} = 112.5 \tag{1512}$$

$$M_{B_2} = 125 \tag{1513}$$

$$M_{B_3} = 137.5 \tag{1514}$$

$$T_5 = \frac{100 + 100 + 112.5 + 112.5 + 125 + 125 + 137.5}{7} + 0 + 0 + 0 \tag{1515}$$

$$T_5 = 116.0714 \tag{1516}$$

T_1	T_2	T_3	T_4	T_5
155.0926	170	40.625	210.625	116.0714

R_{Diff}		R_{Crea}		R	
97.0569		152.5893		249.6462	

F – T011   L4 cap to capped L3 to capped L2, 10.5 presentation

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	10	10	10	10	10	10
A_2	10.5	10.5	10.5	5	5	5
A_3	10.5	10.5	10.5	5	5	5
A_4	10.5	10.5	10.5	5	5	5
A_5	6	5	4	3	2	1

$$S_{A_1} = 40 \tag{1517}$$
$$S_{A_2} = 27.5 \tag{1518}$$
$$S_{A_3} = 27.5 \tag{1519}$$
$$S_{A_4} = 27.5 \tag{1520}$$
$$S_{A_5} = 13 \tag{1521}$$
$$T_2 = 5\frac{275. + 27.5 + 27.5}{3} \tag{1522}$$
$$T_2 = 137.5 \tag{1523}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re	In
B_1	5	1	2	1	2	1	2
B_2	4	2	2	1	2	1	2
B_3	3	3	2	1	2	1	2

$$S_{B_1} = 15 \tag{1524}$$
$$S_{B_2} = 14 \tag{1525}$$
$$S_{B_3} = 13 \tag{1526}$$
$$T_3 = \frac{50}{16} \times \frac{13 + 14 + 15}{3} \tag{1527}$$
$$T_3 = 43.75 \tag{1528}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	5	5	5	5
D_2	16	16	16	5
D_3	16	16	16	5
D_4	16	16	16	5
D_5	5	5	5	5

$$S_{D_1} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1529}$$

$$S_{D_2} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 75 \tag{1530}$$

$$S_{D_3} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 75 \tag{1531}$$

$$S_{D_4} = \begin{cases} L2 &=& 10 \\ L3 &=& 20 \\ L4 &=& 30 \\ L5 &=& 15 \end{cases} = 75 \tag{1532}$$

$$S_{D_5} = \begin{cases} L2 &=& 4.4444 \\ L3 &=& 6.6667 \\ L4 &=& 10 \\ L5 &=& 15 \end{cases} = 36.1111 \tag{1533}$$

$$T_1 = 2.5\frac{36.1111 + 75 + 75}{3} \tag{1534}$$

$$T_1 = 155.0926 \tag{1535}$$

Misses (T_5)

	MINOR	MAJOR	TIME	SPACE	FEW
HJ	5	5	0	0	0
A_1	4	4			
A_2	3	3			
A_3	2	2			
A_4	1	1			
A_5	2	2			
B_1	3	3			
B_2	4	4			
B_3	5	5			

$$M_H J = 187.5 \tag{1536}$$
$$M_{A_1} = 150 \tag{1537}$$
$$M_{A_2} = 112.5 \tag{1538}$$
$$M_{A_3} = 75 \tag{1539}$$
$$M_{A_4} = 37.5 \tag{1540}$$
$$M_{A_5} = 75 \tag{1541}$$
$$M_{B_1} = 112.5 \tag{1542}$$
$$M_{B_2} = 150 \tag{1543}$$
$$M_{B_3} = 187.5 \tag{1544}$$
$$T_5 = \frac{75 + 75 + 112.5 + 112.5 + 150 + 150 + 187.5}{7} + 0 + 0 + 0 \tag{1545}$$
$$T_5 = 123.2143 \tag{1546}$$

T_1	T_2	T_3	T_4	T_5
155.0926	137.5	43.75	181.25	123.2143

R_{Diff}		R_{Crea}		R	
93.4855		119.6429		213.1283	

F – T012 Total Score is Zero

Presentation (T_2)

	MoB	UoM	Mov	FBE	Ori	OIm
A_1	0	0	0	0	0	0
A_2	0	0	0	0	0	0
A_3	0	0	0	0	0	0
A_4	0	0	0	0	0	0
A_5	0	0	0	0	0	0

$$S_{A_1} = 0 \tag{1547}$$
$$S_{A_2} = 0 \tag{1548}$$
$$S_{A_3} = 0 \tag{1549}$$
$$S_{A_4} = 0 \tag{1550}$$
$$S_{A_5} = 0 \tag{1551}$$
$$T_2 = 5\frac{0+0+0}{3} \tag{1552}$$
$$T_2 = 0 \tag{1553}$$

Required Elements (T_3)

	Tu	Sw	Gy	Ae	Sp	Re	In
B_1	0	0	0	0	0	0	0
B_2	0	0	0	0	0	0	0
B_3	0	0	0	0	0	0	0

$$S_{B_1} = 0 \tag{1554}$$
$$S_{B_2} = 0 \tag{1555}$$
$$S_{B_3} = 0 \tag{1556}$$
$$T_3 = \frac{50}{16} \times \frac{0+0+0}{3} \tag{1557}$$
$$T_3 = 50 \tag{1558}$$

Difficulty (T_1)

	L2	L3	L4	L5
D_1	0	0	0	0
D_2	0	0	0	0
D_3	0	0	0	0
D_4	0	0	0	0
D_5	0	0	0	0

$$S_{D_1} = \left.\begin{cases} L2 & = & 0 \\ L3 & = & 0 \\ L4 & = & 0 \\ L5 & = & 0 \end{cases}\right\} = 0 \tag{1559}$$

$$S_{D_2} = \left.\begin{cases} L2 & = & 0 \\ L3 & = & 0 \\ L4 & = & 0 \\ L5 & = & 0 \end{cases}\right\} = 0 \tag{1560}$$

$$S_{D_3} = \left.\begin{cases} L2 & = & 0 \\ L3 & = & 0 \\ L4 & = & 0 \\ L5 & = & 0 \end{cases}\right\} = 0 \tag{1561}$$

$$S_{D_4} = \left.\begin{cases} L2 & = & 0 \\ L3 & = & 0 \\ L4 & = & 0 \\ L5 & = & 0 \end{cases}\right\} = 0 \tag{1562}$$

$$S_{D_5} = \left.\begin{cases} L2 & = & 0 \\ L3 & = & 0 \\ L4 & = & 0 \\ L5 & = & 0 \end{cases}\right\} = 0 \tag{1563}$$

$$T_1 = 2.5\frac{0+0+0}{3} \tag{1564}$$

$$T_1 = 0 \tag{1565}$$

Misses (T_5)

	Minor	Major	Time	Space	Few
HJ	0	0	0	0	0
A_1	0	0			
A_2	0	0			
A_3	0	0			
A_4	0	0			
A_5	0	0			
B_1	0	0			
B_2	0	0			
B_3	0	0			

$$M_H J = 0 \tag{1566}$$
$$M_{A_1} = 0 \tag{1567}$$
$$M_{A_2} = 0 \tag{1568}$$
$$M_{A_3} = 0 \tag{1569}$$
$$M_{A_4} = 0 \tag{1570}$$
$$M_{A_5} = 0 \tag{1571}$$
$$M_{B_1} = 0 \tag{1572}$$
$$M_{B_2} = 0 \tag{1573}$$
$$M_{B_3} = 0 \tag{1574}$$
$$T_5 = \frac{0+0+0+0+0+0+0}{7} + 0 + 0 + 0 \tag{1575}$$
$$T_5 = 0 \tag{1576}$$

T_1	T_2	T_3	T_4	T_5
0	0	0	0	0

R_{Diff}	R_{Crea}	R
0	0	0

Event Ranks

Team	R_{Diff}	Rank (Difficulty)	R_{Crea}	Rank (Creativity)	R	Ranksum	Rank (Ranksum)
T001	40.2778	9	90.625	8	130.9028	17	9
T002	105.7930	5	134.8215	3	240.6144	8	2
T003	103.7222	6	130.0596	5	233.7817	11	6
T004	109.2595	4	131.25	4	240.5093	8	3
T005	120.6944	3	118.75	7	239.4444	10	5
T006							
T007	121.9444	2	83.3333	9	210.2777	11	7
T008	−319.9074	11	−373.125	11	−693.0324	22	11
T009	276.3888	1	237.5	1	513.8888	2	1
T010	97.0569	7	152.5893	2	249.6462	9	4
T011	93.4855	8	119.6429	6	213.1283	14	8
T012	0	10	0	10	0	20	10

G   Overall Ranks

| | Single Rope | | | | | | Double Dutch | | | | | | Overall | | |
| | Speed Relay | | Pair Freestyle | | Team Freestyle | | Speed Relay | | Single Freestyle | | Pair Freestyle | | | | |
Participant	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Total Score	Ranksum	Rank
T001	1050	2	239.6993	5	239.6993	4	1000	2	130.9028	6	130.9028	6	2791.2042	25	4
T002	1050		310.268		310.268				240.6144		240.6144				
T003	1050	2	317.7967	4	317.7967	3	1000	2	233.7817	3	233.7817	2	3153.1568	16	3
T004	1057.5		337.8914		337.8914		1000				240.5093				
T005	1057.5	1	355.6714	3	355.6714	1	1005	1	240.5093	2	239.4444	3	3253.7965	11	1
T006	1042.5		363.2178		363.2178		1005		239.4444						
T007	1035	4	−154.6835	6	−154.6835	6	995	4	210.2777	4	210.2777	5	2141.1884	29	6
T008	1035				528.5529		990		−693.0324		−693.0324				
T009	990	5	528.5529	1	424.245	2	990	5	513.8888	1	513.8888	1	3960.5755	15	2
T010			424.245		447.5783		960		249.6264		249.6462				
T011	0	6	447.5783	2	0	5	0	6	213.1283	5	213.1283	4	873.8349	28	5
T012	−30		0				−20		0		0				