

1)

140	121	130	281
122	99	124	204
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

2)

232	248	96	234
302	255	133	276
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

3)

100	118	130	81
217	306	303	168
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

4)

735	705	808	650
786	670	727	788
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

5)

956	441	893	800
993	392	740	769
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

6)

219	_____	322
243	_____	314
<hr/>		

7)

167	_____	165
264	_____	232
<hr/>		

8)

16	_____	40
54	_____	124
<hr/>		

9)

85	_____	191
92	_____	209
<hr/>		

10)

82	_____	51
314	_____	219
<hr/>		

11)

261	_____	191
21	_____	15
<hr/>		

12)

209	_____	244
160	_____	191
<hr/>		

13)

82	_____	116
275	_____	340
<hr/>		

14)

125	_____	12
241	_____	24
<hr/>		

15)

49	_____	39
156	_____	126
<hr/>		

For each incorrect answer,
15" is added
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problems

6'00"~	: Need Work
5'30"~6'00" : Acceptable	
5'00"~5'30" : Average	
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~4'00" : Superior	

1)	$\frac{281}{204} > \frac{121}{99} > \frac{140}{122} > \frac{130}{124}$
1.377	1.222

6)	$\frac{219}{243}$	47.03%	322
0.901		->	314

2)	$\frac{248}{255} > \frac{234}{276} > \frac{232}{302} > \frac{96}{133}$
0.973	0.848

7)	$\frac{167}{264}$	1.21%	165
0.633		<-	232

3)	$\frac{81}{168} > \frac{100}{217} > \frac{130}{303} > \frac{118}{306}$
0.482	0.461

8)	$\frac{16}{54}$	150.00%	40
0.296		->	124

4)	$\frac{808}{727} > \frac{705}{670} > \frac{735}{786} > \frac{650}{788}$
1.111	1.052

9)	$\frac{85}{92}$	124.71%	191
0.924		->	209

5)	$\frac{893}{740} > \frac{441}{392} > \frac{800}{769} > \frac{956}{993}$
1.207	1.125

10)	$\frac{82}{314}$	60.78%	51
0.261		<-	219

11)	$\frac{261}{21}$	36.65%	191
12.429		<-	15

12)	$\frac{209}{160}$	16.75%	244
1.306		->	191

13)	$\frac{82}{275}$	41.46%	116
0.298		->	340

14)	$\frac{125}{241}$	941.67%	12
0.519		<-	24

15)	$\frac{49}{156}$	25.64%	39
0.314		<-	126

1)

$\frac{19}{14}$	$\frac{312}{216}$	$\frac{168}{139}$	$\frac{307}{202}$
-----------------	-------------------	-------------------	-------------------

_____ > _____ > _____ > _____

6)

$\frac{252}{215}$	<input type="text"/>	$\frac{280}{229}$
-------------------	----------------------	-------------------

2)

$\frac{258}{267}$	$\frac{312}{268}$	$\frac{187}{215}$	$\frac{340}{323}$
-------------------	-------------------	-------------------	-------------------

_____ > _____ > _____ > _____

8)

$\frac{310}{328}$	<input type="text"/>	$\frac{78}{94}$
-------------------	----------------------	-----------------

3)

$\frac{286}{214}$	$\frac{249}{168}$	$\frac{239}{188}$	$\frac{250}{150}$
-------------------	-------------------	-------------------	-------------------

_____ > _____ > _____ > _____

9)

$\frac{307}{318}$	<input type="text"/>	$\frac{80}{89}$
-------------------	----------------------	-----------------

4)

$\frac{461}{405}$	$\frac{877}{966}$	$\frac{826}{799}$	$\frac{429}{358}$
-------------------	-------------------	-------------------	-------------------

_____ > _____ > _____ > _____

10)

$\frac{235}{290}$	<input type="text"/>	$\frac{147}{189}$
-------------------	----------------------	-------------------

5)

$\frac{308}{368}$	$\frac{503}{577}$	$\frac{586}{789}$	$\frac{668}{990}$
-------------------	-------------------	-------------------	-------------------

_____ > _____ > _____ > _____

11)

$\frac{22}{285}$	<input type="text"/>	$\frac{18}{260}$
------------------	----------------------	------------------

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incorrect answer,
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12)

$\frac{295}{111}$	<input type="text"/>	$\frac{185}{74}$
-------------------	----------------------	------------------

13)

$\frac{187}{137}$	<input type="text"/>	$\frac{166}{118}$
-------------------	----------------------	-------------------

14)

$\frac{94}{42}$	<input type="text"/>	$\frac{320}{131}$
-----------------	----------------------	-------------------

15)

$\frac{320}{340}$	<input type="text"/>	$\frac{254}{268}$
-------------------	----------------------	-------------------

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1)	$\frac{307}{202} > \frac{312}{216} > \frac{19}{14} > \frac{168}{139}$
307 202	1.520
312 216	1.444
19 14	1.357
168 139	1.209

2)	$\frac{312}{268} > \frac{340}{323} > \frac{258}{267} > \frac{187}{215}$
312 268	1.164
340 323	1.053
258 267	0.966
187 215	0.870

3)	$\frac{250}{150} > \frac{249}{168} > \frac{286}{214} > \frac{239}{188}$
250 150	1.667
249 168	1.482
286 214	1.336
239 188	1.271

4)	$\frac{429}{358} > \frac{461}{405} > \frac{826}{799} > \frac{877}{966}$
429 358	1.198
461 405	1.138
826 799	1.034
877 966	0.908

5)	$\frac{503}{577} > \frac{308}{368} > \frac{586}{789} > \frac{668}{990}$
503 577	0.872
308 368	0.837
586 789	0.743
668 990	0.675

6)	$\frac{252}{215}$	11.11%	280
	215	->	229
	1.172	6.51%	1.223
7)	$\frac{49}{44}$	10.20%	54
	44	->	48
	1.114	9.09%	1.125
8)	$\frac{310}{328}$	297.44%	78
	328	<-	94
	0.945	248.94%	0.830
9)	$\frac{307}{318}$	283.75%	80
	318	<-	89
	0.965	257.30%	0.899
10)	$\frac{235}{290}$	59.86%	147
	290	<-	189
	0.810	53.44%	0.778
11)	$\frac{22}{285}$	22.22%	18
	285	<-	260
	0.077	9.62%	0.069
12)	$\frac{295}{111}$	59.46%	185
	111	<-	74
	2.658	50.00%	2.500
13)	$\frac{187}{137}$	12.65%	166
	137	<-	118
	1.365	16.10%	1.407
14)	$\frac{94}{42}$	240.43%	320
	42	->	131
	2.238	211.90%	2.443
15)	$\frac{320}{340}$	25.98%	254
	340	<-	268
	0.941	26.87%	0.948

1)

154	34	62	149
323	61	123	257
<hr/>			
_____ > _____ > _____ > _____			

6)

54		44
30		23
<hr/>		

2)

292	270	94	282
270	286	81	335
<hr/>			
_____ > _____ > _____ > _____			

8)

153		54
282		107
<hr/>		

3)

199	195	310	195
145	194	270	153
<hr/>			
_____ > _____ > _____ > _____			

10)

110		322
40		103
<hr/>		

4)

315	584	503	460
467	922	907	934
<hr/>			
_____ > _____ > _____ > _____			

11)

52		80
194		332
<hr/>		

5)

308	945	597	641
252	695	406	396
<hr/>			
_____ > _____ > _____ > _____			

12)

178		223
231		305
<hr/>		

13)

79		315
45		180
<hr/>		

14)

48		220
66		313
<hr/>		

15)

162		212
202		301
<hr/>		

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1)	$\frac{149}{257} > \frac{34}{61} > \frac{62}{123} > \frac{154}{323}$
0.580	0.557

2)	$\frac{94}{81} > \frac{292}{270} > \frac{270}{286} > \frac{282}{335}$
1.160	1.081

3)	$\frac{199}{145} > \frac{195}{153} > \frac{310}{270} > \frac{195}{194}$
1.372	1.275

4)	$\frac{315}{467} > \frac{584}{922} > \frac{503}{907} > \frac{460}{934}$
0.675	0.633

5)	$\frac{641}{396} > \frac{597}{406} > \frac{945}{695} > \frac{308}{252}$
1.619	1.470

6)	$\frac{54}{30}$	22.73% <- 44 23 1.913
	1.800	30.43%
7)	258 273 0.945	57.32% <- 164 196 0.837
8)	153 282 0.543	183.33% <- 54 107 0.505
9)	290 231 1.255	3.45% -> 300 256 1.172
10)	110 40 2.750	192.73% -> 322 103 3.126
11)	52 194 0.268	53.85% -> 80 332 0.241
12)	178 231 0.771	25.28% -> 223 305 0.731
13)	79 45 1.756	298.73% -> 315 180 1.750
14)	48 66 0.727	358.33% -> 220 313 0.703
15)	162 202 0.802	30.86% -> 212 301 0.704

1)

293	284	168	253
205	244	134	156
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

2)

47	162	192	309
39	147	199	230
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

3)

168	277	329	239
137	194	249	160
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

4)

688	681	673	674
757	956	823	648
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

5)

253	292	281	316
320	283	315	443
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

6)

206		280
221		302
<hr/>		

7)

307		164
228		105
<hr/>		

8)

292		178
165		87
<hr/>		

9)

310		334
236		261
<hr/>		

10)

259		147
303		195
<hr/>		

11)

256		140
309		183
<hr/>		

12)

260		220
192		173
<hr/>		

13)

290		183
236		168
<hr/>		

14)

160		177
182		186
<hr/>		

15)

157		266
131		201
<hr/>		

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5'00"~5'30" : Average	
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4'00"~4'30" : Excellent	
~4'00" : Superior	

1)	$\frac{253}{156} > \frac{293}{205} > \frac{168}{134} > \frac{284}{244}$
253 156	293 205
1.622	1.429
168 134	244
1.254	1.164

2)	$\frac{309}{230} > \frac{47}{39} > \frac{162}{147} > \frac{192}{199}$
309 230	47 39
1.343	1.205
162 147	192 199
1.102	0.965

3)	$\frac{239}{160} > \frac{277}{194} > \frac{329}{249} > \frac{168}{137}$
239 160	277 194
1.494	1.428
329 249	168 137
1.321	1.226

4)	$\frac{674}{648} > \frac{688}{757} > \frac{673}{823} > \frac{681}{956}$
674 648	688 757
1.040	0.909
673 823	681 956
0.818	0.712

5)	$\frac{292}{283} > \frac{281}{315} > \frac{253}{320} > \frac{316}{443}$
292 283	281 315
1.032	0.892
253 320	316 443
0.791	0.713

6)	$\frac{206}{221} > \frac{0.932}{0.932} > \frac{164}{105}$
206 221	0.932 0.932
164 105	1.562
1.346	
7)	$\frac{307}{228} < \frac{1.346}{1.346}$
307 228	1.346 1.346
1.346	
8)	$\frac{292}{165} < \frac{1.770}{1.770}$
292 165	1.770 1.770
1.770	
9)	$\frac{310}{236} > \frac{1.314}{1.314}$
310 236	1.314 1.314
1.314	
10)	$\frac{259}{303} < \frac{0.855}{0.855}$
259 303	0.855 0.855
0.855	
11)	$\frac{256}{309} < \frac{0.828}{0.828}$
256 309	0.828 0.828
0.828	
12)	$\frac{260}{192} < \frac{1.354}{1.354}$
260 192	1.354 1.354
1.354	
13)	$\frac{290}{236} < \frac{1.229}{1.229}$
290 236	1.229 1.229
1.229	
14)	$\frac{160}{182} > \frac{0.879}{0.879}$
160 182	0.879 0.879
0.879	
15)	$\frac{157}{131} > \frac{1.198}{1.198}$
157 131	1.198 1.198
1.198	

1)

161	142	142	200
337	206	257	320
_____ > _____ > _____ > _____			

6)

287		264
282		266

2)

73	69	258	171
119	101	338	265
_____ > _____ > _____ > _____			

8)

278		166
326		206

3)

85	66	47	110
206	134	104	202
_____ > _____ > _____ > _____			

9)

225		295
94		110

4)

479	589	628	821
570	584	845	930
_____ > _____ > _____ > _____			

10)

295		153
303		158

5)

289	789	849	538
245	826	807	490
_____ > _____ > _____ > _____			

11)

175		298
57		88

12)

264		200
328		237

13)

327		333
280		283

14)

144		114
147		127

15)

146		241
207		328

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problems

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4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{142}{206} > \frac{200}{320} > \frac{142}{257} > \frac{161}{337}$
0.689	0.625

0.553	0.478
-------	-------

2)	$\frac{258}{338} > \frac{69}{101} > \frac{171}{265} > \frac{73}{119}$
0.763	0.683

0.645	0.613
-------	-------

3)	$\frac{110}{202} > \frac{66}{134} > \frac{47}{104} > \frac{85}{206}$
0.545	0.493

0.452	0.413
-------	-------

4)	$\frac{589}{584} > \frac{821}{930} > \frac{479}{570} > \frac{628}{845}$
1.009	0.883

0.840	0.743
-------	-------

5)	$\frac{289}{245} > \frac{538}{490} > \frac{849}{807} > \frac{789}{826}$
1.180	1.098

1.052	0.955
-------	-------

6)	$\frac{287}{282} < \frac{264}{266}$
1.018	0.992

7)	$\frac{243}{287} < \frac{134}{163}$
0.847	0.822

8)	$\frac{278}{326} < \frac{166}{206}$
0.853	0.806

9)	$\frac{225}{94} > \frac{295}{110}$
2.394	2.682

10)	$\frac{295}{303} < \frac{153}{158}$
0.974	0.968

11)	$\frac{175}{57} > \frac{298}{88}$
3.070	3.386

12)	$\frac{264}{328} < \frac{200}{237}$
0.805	0.844

13)	$\frac{327}{280} > \frac{333}{283}$
1.168	1.177

14)	$\frac{144}{147} < \frac{114}{127}$
0.980	0.898

15)	$\frac{146}{207} > \frac{241}{328}$
0.705	0.735

1)

126	106	168	90
<hr/>	<hr/>	<hr/>	<hr/>
236	207	299	145

_____ > _____ > _____ > _____

2)

308	252	155	120
<hr/>	<hr/>	<hr/>	<hr/>
333	329	154	149

_____ > _____ > _____ > _____

3)

220	141	128	201
<hr/>	<hr/>	<hr/>	<hr/>
241	203	160	313

_____ > _____ > _____ > _____

4)

384	853	210	661
<hr/>	<hr/>	<hr/>	<hr/>
380	960	220	832

_____ > _____ > _____ > _____

5)

719	544	240	464
<hr/>	<hr/>	<hr/>	<hr/>
920	923	372	646

_____ > _____ > _____ > _____

6)

97	_____	251
<hr/>	<hr/>	<hr/>
50	_____	142

7)

6	_____	58
<hr/>	<hr/>	<hr/>
38	_____	328

8)

127	_____	112
<hr/>	<hr/>	<hr/>
153	_____	138

9)

22	_____	42
<hr/>	<hr/>	<hr/>
141	_____	240

10)

94	_____	168
<hr/>	<hr/>	<hr/>
138	_____	267

11)

267	_____	231
<hr/>	<hr/>	<hr/>
325	_____	287

12)

192	_____	128
<hr/>	<hr/>	<hr/>
302	_____	192

13)

53	_____	56
<hr/>	<hr/>	<hr/>
300	_____	307

14)

107	_____	221
<hr/>	<hr/>	<hr/>
40	_____	84

15)

142	_____	116
<hr/>	<hr/>	<hr/>
102	_____	74

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4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

1)	$\frac{90}{145} > \frac{168}{299} > \frac{126}{236} > \frac{106}{207}$		
0.621	0.562	0.534	0.512

2)	$\frac{155}{154} > \frac{308}{333} > \frac{120}{149} > \frac{252}{329}$		
1.006	0.925	0.805	0.766

3)	$\frac{220}{241} > \frac{128}{160} > \frac{141}{203} > \frac{201}{313}$		
0.913	0.800	0.695	0.642

4)	$\frac{384}{380} > \frac{210}{220} > \frac{853}{960} > \frac{661}{832}$		
1.011	0.955	0.889	0.794

5)	$\frac{719}{920} > \frac{464}{646} > \frac{240}{372} > \frac{544}{923}$		
0.782	0.718	0.645	0.589

6)	$\frac{97}{50} > \frac{1.940}{1.768}$	
158.76%	->	251
184.00%	->	142
866.67%	->	58
763.16%	->	328
13.39%	<-	112
10.87%	<-	138
90.91%	->	42
70.21%	->	240
78.72%	->	168
93.48%	->	267
15.58%	<-	231
13.24%	<-	287
50.00%	<-	128
57.29%	<-	192
5.66%	<-	0.667
2.33%	<-	0.182
106.54%	<-	221
110.00%	<-	84
22.41%	<-	2.631
37.84%	<-	1.568

1)

237	264	309	132
264	335	304	186
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

6)

175	_____	202
135	_____	174
<hr/>		

7)

47	_____	109
107	_____	233
<hr/>		

2)

181	138	274	56
148	141	257	60
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

8)

44	_____	49
273	_____	342
<hr/>		

9)

148	_____	172
195	_____	229
<hr/>		

3)

141	177	195	70
256	261	319	90
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

10)

251	_____	131
268	_____	144
<hr/>		

11)

121	_____	215
76	_____	129
<hr/>		

4)

752	587	275	583
698	687	300	584
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

12)

206	_____	306
224	_____	325
<hr/>		

5)

718	781	606	721
882	836	935	963
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

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~4'00" : Superior	

1)	$\frac{309}{304} > \frac{237}{264} > \frac{264}{335} > \frac{132}{186}$
	1.016 0.898 0.788 0.710

2)	$\frac{181}{148} > \frac{274}{257} > \frac{138}{141} > \frac{56}{60}$
	1.223 1.066 0.979 0.933

3)	$\frac{70}{90} > \frac{177}{261} > \frac{195}{319} > \frac{141}{256}$
	0.778 0.678 0.611 0.551

4)	$\frac{752}{698} > \frac{583}{584} > \frac{275}{300} > \frac{587}{687}$
	1.077 0.998 0.917 0.854

5)	$\frac{781}{836} > \frac{718}{882} > \frac{721}{963} > \frac{606}{935}$
	0.934 0.814 0.749 0.648

6)	$\frac{175}{135} > \frac{1.296}{1.296}$
	15.43% -> 202
	-> 174
	28.89% 1.161
7)	$\frac{47}{107} > \frac{0.439}{0.439}$
	131.91% ->
	-> 109
	117.76% 233
8)	$\frac{44}{273} > \frac{0.161}{0.161}$
	11.36% ->
	-> 49
	25.27% 342
9)	$\frac{148}{195} > \frac{0.759}{0.759}$
	16.22% ->
	-> 172
	17.44% 229
10)	$\frac{251}{268} > \frac{0.937}{0.937}$
	91.60% <-
	<- 131
	86.11% 144
11)	$\frac{121}{76} > \frac{1.592}{1.592}$
	77.69% ->
	-> 215
	69.74% 129
12)	$\frac{206}{224} > \frac{0.920}{0.920}$
	48.54% ->
	-> 306
	45.09% 325
13)	$\frac{52}{134} > \frac{0.388}{0.388}$
	186.54% ->
	-> 149
	147.76% 332
14)	$\frac{80}{332} > \frac{0.241}{0.241}$
	90.48% <-
	<- 42
	75.66% 189
15)	$\frac{257}{183} > \frac{1.404}{1.404}$
	0.78% <-
	<- 255
	5.78% 173
	1.474

1)

$$\begin{array}{r} 17 \\ \times 15 \\ \hline 15 & 75 \\ & 48 \\ \hline & 50 \\ & 237 \\ \hline & 175 \end{array}$$

_____ > _____ > _____ > _____

6)

$$\begin{array}{r} 121 \\ \times 119 \\ \hline & 119 \\ & 121 \\ \hline & 289 \\ & 296 \end{array}$$

2)

$$\begin{array}{r} 99 \\ \times 133 \\ \hline 296 \\ 323 \\ \hline 97 \\ 72 \\ \hline 71 \end{array}$$

_____ > _____ > _____ > _____

8)

$$\begin{array}{r} 54 \\ \times 155 \\ \hline & 155 \\ & 54 \\ \hline & 86 \\ & 273 \end{array}$$

3)

$$\begin{array}{r} 288 \\ \times 243 \\ \hline 261 \\ 208 \\ \hline 94 \\ 65 \\ \hline 165 \\ 145 \end{array}$$

_____ > _____ > _____ > _____

9)

$$\begin{array}{r} 135 \\ \times 120 \\ \hline & 120 \\ & 135 \\ \hline & 323 \\ & 249 \end{array}$$

4)

$$\begin{array}{r} 616 \\ \times 692 \\ \hline 483 \\ 499 \\ \hline 982 \\ 847 \\ \hline 468 \\ 430 \end{array}$$

_____ > _____ > _____ > _____

10)

$$\begin{array}{r} 161 \\ \times 298 \\ \hline & 298 \\ & 161 \\ \hline & 186 \\ & 301 \end{array}$$

5)

$$\begin{array}{r} 652 \\ \times 623 \\ \hline 572 \\ 580 \\ \hline 686 \\ 907 \\ \hline 791 \\ 922 \end{array}$$

_____ > _____ > _____ > _____

11)

$$\begin{array}{r} 159 \\ \times 71 \\ \hline & 71 \\ & 159 \\ \hline & 228 \\ & 88 \end{array}$$

12)

$$\begin{array}{r} 39 \\ \times 214 \\ \hline & 214 \\ & 39 \\ \hline & 37 \\ & 203 \end{array}$$

13)

$$\begin{array}{r} 244 \\ \times 221 \\ \hline & 221 \\ & 244 \\ \hline & 311 \\ & 321 \end{array}$$

14)

$$\begin{array}{r} 143 \\ \times 125 \\ \hline & 125 \\ & 143 \\ \hline & 215 \\ & 182 \end{array}$$

15)

$$\begin{array}{r} 219 \\ \times 321 \\ \hline & 321 \\ & 219 \\ \hline & 106 \\ & 152 \end{array}$$

For each incorrect answer,
15" is added
to the time
taken to solve
problems

6'00"~ : Need Work

5'30"~6'00" : Acceptable

5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{75}{48} > \frac{237}{175} > \frac{59}{50} > \frac{17}{15}$
1.563	1.354
1.180	1.133

2)	$\frac{72}{71} > \frac{296}{323} > \frac{83}{97} > \frac{99}{133}$
1.014	0.916
0.856	0.744

3)	$\frac{94}{65} > \frac{261}{208} > \frac{288}{243} > \frac{165}{145}$
1.446	1.255
1.185	1.138

4)	$\frac{982}{847} > \frac{468}{430} > \frac{483}{499} > \frac{616}{692}$
1.159	1.088
0.968	0.890

5)	$\frac{652}{623} > \frac{572}{580} > \frac{791}{922} > \frac{686}{907}$
1.047	0.986
0.858	0.756

6)	$\frac{121}{119} > \frac{1.017}{1.017} > \frac{289}{296}$
138.84%	->
289	296
148.74%	->
0.976	0.976
51.06%	<-
47	134
52.99%	<-
0.351	0.351
59.26%	->
86	273
76.13%	->
0.315	0.315
139.26%	->
323	249
107.50%	->
1.297	1.297
15.53%	->
186	301
1.01%	->
0.618	0.618
43.40%	->
228	88
23.94%	->
2.591	2.591
5.41%	<-
37	203
5.42%	<-
0.182	0.182
27.46%	->
311	321
45.25%	->
0.969	0.969
50.35%	->
215	182
45.60%	->
1.181	1.181
106.60%	<-
106	152
111.18%	<-
0.697	0.697

1)

314	102	321	277
141	41	171	136
<hr/>			
_____	_____	_____	_____

6)

172		116
313		211
<hr/>		

2)

30	176	35	186
70	325	73	313
<hr/>			
_____	_____	_____	_____

7)

50		230
62		288
<hr/>		

3)

159	261	82	93
222	273	102	111
<hr/>			
_____	_____	_____	_____

8)

72		257
79		306
<hr/>		

4)

983	262	940	755
921	260	780	794
<hr/>			
_____	_____	_____	_____

9)

259		165
285		164
<hr/>		

5)

59	282	922	846
76	316	874	889
<hr/>			
_____	_____	_____	_____

10)

323		296
334		276
<hr/>		

11)

23		47
91		208
<hr/>		

12)

164		97
329		177
<hr/>		

13)

249		324
191		224
<hr/>		

14)

159		273
126		196
<hr/>		

15)

191		191
314		336
<hr/>		

For each incorrect answer,
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problems

6'00"~	: Need Work
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5'00"~5'30" : Average	
4'30"~5'00" : good	
4'00"~4'30" : Excellent	
~4'00" : Superior	

1)	$\frac{102}{41} > \frac{314}{141} > \frac{277}{136} > \frac{321}{171}$
	2.488 2.227 2.037 1.877

2)	$\frac{186}{313} > \frac{176}{325} > \frac{35}{73} > \frac{30}{70}$
	0.594 0.542 0.479 0.429

3)	$\frac{261}{273} > \frac{93}{111} > \frac{82}{102} > \frac{159}{222}$
	0.956 0.838 0.804 0.716

4)	$\frac{940}{780} > \frac{983}{921} > \frac{262}{260} > \frac{755}{794}$
	1.205 1.067 1.008 0.951

5)	$\frac{922}{874} > \frac{846}{889} > \frac{282}{316} > \frac{59}{76}$
	1.055 0.952 0.892 0.776

6)	$\frac{172}{313}$	48.28% <- 0.550	116 211 0.550
7)	50 62 0.806	360.00% -> -> 364.52%	230 288 0.799
8)	72 79 0.911	256.94% -> -> 287.34%	257 306 0.840
9)	$\frac{259}{285}$	56.97% <- 0.909	165 164 1.006
10)	$\frac{323}{334}$	9.12% <- 0.967	296 276 1.072
11)	23 91 0.253	104.35% -> -> 128.57%	47 208 0.226
12)	$\frac{164}{329}$	69.07% <- 0.498	97 177 0.548
13)	$\frac{249}{191}$	30.12% -> -> 17.28%	324 224 1.446
14)	$\frac{159}{126}$	71.70% -> -> 55.56%	273 196 1.393
15)	191 314 0.608	0.00% -> -> 7.01%	191 336 0.568

1)

60	322	235	233
42	280	196	175
<hr/>			
_____ > _____ > _____ > _____			

6)

89		182
80		157
<hr/>		

2)

186	262	254	88
195	256	304	79
<hr/>			
_____ > _____ > _____ > _____			

8)

330		231
266		197
<hr/>		

3)

336	307	242	276
324	330	206	321
<hr/>			
_____ > _____ > _____ > _____			

10)

151		298
78		151
<hr/>		

4)

740	490	950	334
463	288	711	235
<hr/>			
_____ > _____ > _____ > _____			

11)

166		174
201		202
<hr/>		

5)

638	428	237	406
298	169	119	180
<hr/>			
_____ > _____ > _____ > _____			

12)

146		225
237		322
<hr/>		

For each incorrect answer,
15" is added
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taken to solve
problems

6'00"~	: Need Work
5'30"~6'00" : Acceptable	
5'00"~5'30" : Average	
4'30"~5'00" : good	
4'00"~4'30" : Excellent	
~4'00" : Superior	

1)	$\frac{60}{42} > \frac{233}{175} > \frac{235}{196} > \frac{322}{280}$
1.429	1.331
1.199	1.150

2)	$\frac{88}{79} > \frac{262}{256} > \frac{186}{195} > \frac{254}{304}$
1.114	1.023
0.954	0.836

3)	$\frac{242}{206} > \frac{336}{324} > \frac{307}{330} > \frac{276}{321}$
1.175	1.037
0.930	0.860

4)	$\frac{490}{288} > \frac{740}{463} > \frac{334}{235} > \frac{950}{711}$
1.701	1.598
1.421	1.336

5)	$\frac{428}{169} > \frac{406}{180} > \frac{638}{298} > \frac{237}{119}$
2.533	2.256
2.141	1.992

6)	$\frac{89}{80}$	104.49%	182
	1.113	->	157
		96.25%	1.159
7)	$\frac{254}{244}$	104.84%	124
	1.041	<-	116
		110.34%	1.069
8)	$\frac{330}{266}$	42.86%	231
	1.241	<-	197
		35.03%	1.173
9)	$\frac{291}{286}$	38.57%	210
	1.017	<-	221
		29.41%	0.950
10)	$\frac{151}{78}$	97.35%	298
	1.936	->	151
		93.59%	1.974
11)	$\frac{166}{201}$	4.82%	174
	0.826	->	202
		0.50%	0.861
12)	$\frac{146}{237}$	54.11%	225
	0.616	->	322
		35.86%	0.699
13)	$\frac{122}{310}$	40.23%	87
	0.394	<-	242
		28.10%	0.360
14)	$\frac{143}{97}$	84.62%	264
	1.474	->	183
		88.66%	1.443
15)	$\frac{202}{86}$	49.63%	135
	2.349	<-	64
		34.38%	2.109

1)

169	160	130	179
224	195	183	205
<hr/>			
_____ > _____ > _____ > _____			

6)

221		326
191		299
<hr/>		

2)

127	119	142	14
266	226	331	25
<hr/>			
_____ > _____ > _____ > _____			

8)

217		295
146		218
<hr/>		

3)

193	155	73	221
272	295	122	332
<hr/>			
_____ > _____ > _____ > _____			

10)

299		191
250		166
<hr/>		

4)

901	247	908	892
572	143	660	679
<hr/>			
_____ > _____ > _____ > _____			

12)

231		173
188		159
<hr/>		

5)

433	750	353	702
696	967	535	967
<hr/>			
_____ > _____ > _____ > _____			

13)

263		233
268		239
<hr/>		

14)

195		285
113		168
<hr/>		

15)

289		126
330		163
<hr/>		

For each
incorrect answer,
15" is added
to the time
taken to solve
problems

6'00"~ : Need Work

5'30"~6'00" : Acceptable

5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{179}{205} > \frac{160}{195} > \frac{169}{224} > \frac{130}{183}$
	0.873 0.821 0.754 0.710

2)	$\frac{14}{25} > \frac{119}{226} > \frac{127}{266} > \frac{142}{331}$
	0.560 0.527 0.477 0.429

3)	$\frac{193}{272} > \frac{221}{332} > \frac{73}{122} > \frac{155}{295}$
	0.710 0.666 0.598 0.525

4)	$\frac{247}{143} > \frac{901}{572} > \frac{908}{660} > \frac{892}{679}$
	1.727 1.575 1.376 1.314

5)	$\frac{750}{967} > \frac{702}{967} > \frac{353}{535} > \frac{433}{696}$
	0.776 0.726 0.660 0.622

6)	$\frac{221}{191} > \frac{1.157}{1.157} > \frac{326}{299}$
	47.51% -> 326 -> 299 56.54% 1.090
7)	$\frac{322}{202} < \frac{1.594}{1.594} < \frac{262}{167}$
	22.90% <- 262 <- 167 20.96% 1.569
8)	$\frac{217}{146} > \frac{1.486}{1.486} > \frac{295}{218}$
	35.94% -> 295 -> 218 49.32% 1.353
9)	$\frac{50}{30} > \frac{1.667}{1.667} > \frac{330}{225}$
	560.00% -> 330 -> 225 650.00% 1.467
10)	$\frac{299}{250} < \frac{1.196}{1.196} < \frac{191}{166}$
	56.54% <- 191 <- 166 50.60% 1.151
11)	$\frac{267}{230} < \frac{1.161}{1.161} < \frac{95}{87}$
	181.05% <- 95 <- 87 164.37% 1.092
12)	$\frac{231}{188} < \frac{1.229}{1.229} < \frac{173}{159}$
	33.53% <- 173 <- 159 18.24% 1.088
13)	$\frac{263}{268} < \frac{0.981}{0.981} < \frac{233}{239}$
	12.88% <- 233 <- 239 12.13% 0.975
14)	$\frac{195}{113} > \frac{1.726}{1.726} > \frac{285}{168}$
	46.15% -> 285 -> 168 48.67% 1.696
15)	$\frac{289}{330} < \frac{0.876}{0.876} < \frac{126}{163}$
	129.37% <- 126 <- 163 102.45% 0.773

1)

236	276	155	215
313	280	180	264
<hr/>			
_____ > _____ > _____ > _____			

6)

290		304
146		165
<hr/>		

2)

222	134	69	143
219	146	72	166
<hr/>			
_____ > _____ > _____ > _____			

8)

216		327
184		269
<hr/>		

3)

101	132	138	211
95	109	151	216
<hr/>			
_____ > _____ > _____ > _____			

10)

303		292
198		183
<hr/>		

4)

289	503	131	377
313	570	118	366
<hr/>			
_____ > _____ > _____ > _____			

12)

275		101
245		79
<hr/>		

5)

577	745	955	572
418	648	911	465
<hr/>			
_____ > _____ > _____ > _____			

13)

12		12
58		55
<hr/>		

14)

159		132
164		124
<hr/>		

15)

219		252
207		264
<hr/>		

For each incorrect answer,
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problems

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5'30"~6'00" : Acceptable

5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{276}{280} > \frac{155}{180} > \frac{215}{264} > \frac{236}{313}$
	0.986 0.861 0.814 0.754

2)	$\frac{222}{219} > \frac{69}{72} > \frac{134}{146} > \frac{143}{166}$
	1.014 0.958 0.918 0.861

3)	$\frac{132}{109} > \frac{101}{95} > \frac{211}{216} > \frac{138}{151}$
	1.211 1.063 0.977 0.914

4)	$\frac{131}{118} > \frac{377}{366} > \frac{289}{313} > \frac{503}{570}$
	1.110 1.030 0.923 0.882

5)	$\frac{577}{418} > \frac{572}{465} > \frac{745}{648} > \frac{955}{911}$
	1.380 1.230 1.150 1.048

6)	$\frac{290}{146}$	4.83% -> 304 165 1.842
	1.986	13.01%
7)	$\frac{30}{43}$	240.00% -> 102 146 0.699
	0.698	239.53%
8)	$\frac{216}{184}$	51.39% -> 327 269 1.216
	1.174	46.20%
9)	$\frac{211}{206}$	177.63% <- 76 79 0.962
	1.024	160.76%
10)	$\frac{303}{198}$	3.77% <- 292 183 1.596
	1.530	8.20%
11)	$\frac{316}{196}$	61.22% <- 196 120 1.633
	1.612	63.33%
12)	$\frac{275}{245}$	172.28% <- 101 79 1.278
	1.122	210.13%
13)	$\frac{12}{58}$	0.00% -> 12 55 0.218
	0.207	5.45%
14)	$\frac{159}{164}$	20.45% <- 132 124 1.065
	0.970	32.26%
15)	$\frac{219}{207}$	15.07% -> 252 264 0.955
	1.058	27.54%

1)

298	186	125	272
234	197	106	256
<hr/>			
_____	_____	_____	_____

2)

83	132	246	155
121	202	331	259
<hr/>			
_____	_____	_____	_____

3)

228	330	71	292
121	184	43	196
<hr/>			
_____	_____	_____	_____

4)

958	751	878	612
588	568	608	482
<hr/>			
_____	_____	_____	_____

5)

358	627	766	725
272	690	675	689
<hr/>			
_____	_____	_____	_____

6)

294		316
138		164
<hr/>		

7)

254		286
259		259
<hr/>		

8)

192		252
150		198
<hr/>		

9)

180		220
90		98
<hr/>		

10)

216		196
303		238
<hr/>		

11)

26		43
183		312
<hr/>		

12)

138		329
149		324
<hr/>		

13)

325		313
315		262
<hr/>		

14)

212		164
328		284
<hr/>		

15)

106		42
273		102
<hr/>		

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5'30"~6'00"	: Acceptable
5'00"~5'30"	: Average
4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

1)	$\frac{298}{234} > \frac{125}{106} > \frac{272}{256} > \frac{186}{197}$
298 234	125 106
1.274	1.179
272 256	1.063
186 197	0.944

2)	$\frac{246}{331} > \frac{83}{121} > \frac{132}{202} > \frac{155}{259}$
246 331	83 121
0.743	0.686
132 202	0.653
155 259	0.598

3)	$\frac{228}{121} > \frac{330}{184} > \frac{71}{43} > \frac{292}{196}$
228 121	330 184
1.884	1.793
71 43	1.651
292 196	1.490

4)	$\frac{958}{588} > \frac{878}{608} > \frac{751}{568} > \frac{612}{482}$
958 588	878 608
1.629	1.444
751 568	1.322
612 482	1.270

5)	$\frac{358}{272} > \frac{766}{675} > \frac{725}{689} > \frac{627}{690}$
358 272	766 675
1.316	1.135
725 689	1.052
627 690	0.909

6)	$\frac{294}{138} > \frac{138}{2.130}$
294 138	138 2.130
7.48%	->
316 164	164 1.927
18.84%	
7)	$\frac{254}{259} > \frac{259}{0.981}$
254 259	259 0.981
12.60%	->
286 259	259 1.104
0.00%	
8)	$\frac{192}{150} > \frac{150}{1.280}$
192 150	150 1.280
31.25%	->
252 198	198 1.273
32.00%	
9)	$\frac{180}{90} > \frac{90}{2.000}$
180 90	90 2.000
22.22%	->
220 98	98 2.245
8.89%	
10)	$\frac{216}{303} < \frac{303}{0.713}$
216 303	303 0.713
10.20%	<-
196 238	238 0.824
27.31%	
11)	$\frac{26}{183} > \frac{183}{0.142}$
26 183	183 0.142
65.38%	->
43 312	312 0.138
70.49%	
12)	$\frac{138}{149} > \frac{149}{0.926}$
138 149	149 0.926
138.41%	->
329 324	324 1.015
117.45%	
13)	$\frac{325}{315} < \frac{315}{1.032}$
325 315	315 1.032
3.83%	<-
313 262	262 1.195
20.23%	
14)	$\frac{212}{328} < \frac{328}{0.646}$
212 328	328 0.646
29.27%	<-
164 284	284 0.577
15.49%	
15)	$\frac{106}{273} < \frac{273}{0.388}$
106 273	273 0.388
152.38%	<-
42 102	102 0.412
167.65%	

1)

269	153	234	234
311	201	253	325
<hr/>			
_____ > _____ > _____ > _____			

6)

126		47
324		108
<hr/>		

2)

269	245	227	322
240	286	194	328
<hr/>			
_____ > _____ > _____ > _____			

8)

166		196
253		269
<hr/>		

3)

185	332	250	47
185	263	261	41
<hr/>			
_____ > _____ > _____ > _____			

10)

204		170
132		103
<hr/>		

4)

202	306	616	325
393	538	967	463
<hr/>			
_____ > _____ > _____ > _____			

11)

288		194
307		214
<hr/>		

5)

956	356	874	881
987	336	734	699
<hr/>			
_____ > _____ > _____ > _____			

14)

50		105
82		189
<hr/>		

15)

232		101
323		128
<hr/>		

For each incorrect answer,
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problems

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5'30"~6'00" : Acceptable

5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{234}{253} > \frac{269}{311} > \frac{153}{201} > \frac{234}{325}$

2)	$\frac{227}{194} > \frac{269}{240} > \frac{322}{328} > \frac{245}{286}$

3)	$\frac{332}{263} > \frac{47}{41} > \frac{185}{185} > \frac{250}{261}$

4)	$\frac{325}{463} > \frac{616}{967} > \frac{306}{538} > \frac{202}{393}$

5)	$\frac{881}{699} > \frac{874}{734} > \frac{356}{336} > \frac{956}{987}$

6)	$\frac{126}{324}$	168.09%	47
	0.389	<-	108
		200.00%	0.435
		91.86%	
7)	$\frac{330}{276}$	<-	172
	1.196	<-	125
		120.80%	1.376
		18.07%	
8)	$\frac{166}{253}$	->	196
	0.656	->	269
		6.32%	0.729
		18.07%	
9)	$\frac{281}{309}$	<-	238
	0.909	<-	261
		18.39%	0.912
		20.00%	
10)	$\frac{204}{132}$	<-	170
	1.545	<-	103
		28.16%	1.650
		48.45%	
11)	$\frac{288}{307}$	<-	194
	0.938	<-	214
		43.46%	0.907
		6.40%	
12)	$\frac{250}{186}$	->	266
	1.344	->	204
		9.68%	1.304
		12.31%	
13)	$\frac{130}{233}$	->	146
	0.558	->	250
		7.30%	0.584
		110.00%	
14)	$\frac{50}{82}$	->	105
	0.610	->	189
		130.49%	0.556
		129.70%	
15)	$\frac{232}{323}$	<-	101
	0.718	<-	128
		152.34%	0.789

1)

$\frac{26}{20}$	$\frac{335}{311}$	$\frac{183}{151}$	$\frac{222}{230}$
-----------------	-------------------	-------------------	-------------------

_____ > _____ > _____ > _____

2)

$\frac{333}{283}$	$\frac{167}{124}$	$\frac{316}{197}$	$\frac{246}{166}$
-------------------	-------------------	-------------------	-------------------

_____ > _____ > _____ > _____

3)

$\frac{272}{252}$	$\frac{273}{311}$	$\frac{286}{240}$	$\frac{303}{316}$
-------------------	-------------------	-------------------	-------------------

_____ > _____ > _____ > _____

4)

$\frac{915}{577}$	$\frac{91}{48}$	$\frac{905}{548}$	$\frac{607}{430}$
-------------------	-----------------	-------------------	-------------------

_____ > _____ > _____ > _____

5)

$\frac{478}{635}$	$\frac{708}{772}$	$\frac{909}{936}$	$\frac{218}{256}$
-------------------	-------------------	-------------------	-------------------

_____ > _____ > _____ > _____

6)

$\frac{143}{330}$	<input type="text"/>	$\frac{113}{241}$
-------------------	----------------------	-------------------

7)

$\frac{108}{335}$	<input type="text"/>	$\frac{62}{168}$
-------------------	----------------------	------------------

8)

$\frac{241}{297}$	<input type="text"/>	$\frac{179}{229}$
-------------------	----------------------	-------------------

9)

$\frac{280}{296}$	<input type="text"/>	$\frac{80}{81}$
-------------------	----------------------	-----------------

10)

$\frac{101}{87}$	<input type="text"/>	$\frac{196}{183}$
------------------	----------------------	-------------------

11)

$\frac{313}{293}$	<input type="text"/>	$\frac{134}{118}$
-------------------	----------------------	-------------------

12)

$\frac{289}{81}$	<input type="text"/>	$\frac{291}{81}$
------------------	----------------------	------------------

13)

$\frac{315}{142}$	<input type="text"/>	$\frac{108}{49}$
-------------------	----------------------	------------------

14)

$\frac{42}{120}$	<input type="text"/>	$\frac{111}{308}$
------------------	----------------------	-------------------

15)

$\frac{157}{293}$	<input type="text"/>	$\frac{209}{336}$
-------------------	----------------------	-------------------

For each incorrect answer,
15" is added
to the time
taken to solve
problems

6'00"~ : Need Work

5'30"~6'00" : Acceptable

5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{26}{20} > \frac{183}{151} > \frac{335}{311} > \frac{222}{230}$
1.300	1.212

1.077 0.965

2)	$\frac{316}{197} > \frac{246}{166} > \frac{167}{124} > \frac{333}{283}$
1.604	1.482

1.347 1.177

3)	$\frac{286}{240} > \frac{272}{252} > \frac{303}{316} > \frac{273}{311}$
1.192	1.079

0.959 0.878

4)	$\frac{91}{48} > \frac{905}{548} > \frac{915}{577} > \frac{607}{430}$
1.896	1.651

1.586 1.412

5)	$\frac{909}{936} > \frac{708}{772} > \frac{218}{256} > \frac{478}{635}$
0.971	0.917

0.852 0.753

6)	$\frac{143}{330}$	26.55%	113
	0.433	<-	241
	0.469	36.93%	
7)	$\frac{108}{335}$	74.19%	62
	0.322	<-	168
	0.369	99.40%	
8)	$\frac{241}{297}$	34.64%	179
	0.811	<-	229
	0.782	29.69%	
9)	$\frac{280}{296}$	250.00%	80
	0.946	<-	81
	0.988	265.43%	
10)	$\frac{101}{87}$	94.06%	196
	1.161	->	183
	1.071	110.34%	
11)	$\frac{313}{293}$	133.58%	134
	1.068	<-	118
	1.136	148.31%	
12)	$\frac{289}{81}$	0.69%	291
	3.568	->	81
	3.593	0.00%	
13)	$\frac{315}{142}$	191.67%	108
	2.218	<-	49
	2.204	189.80%	
14)	$\frac{42}{120}$	164.29%	111
	0.350	->	308
	0.360	156.67%	
15)	$\frac{157}{293}$	33.12%	209
	0.536	->	336
	0.622	14.68%	

1)

182	189	222	149
213	205	285	212
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

6)

212	_____	64
284	_____	79
<hr/>		

7)

203	_____	223
172	_____	211
<hr/>		

2)

73	192	144	119
168	338	311	243
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

8)

189	_____	189
269	_____	297
<hr/>		

9)

193	_____	221
160	_____	162
<hr/>		

3)

331	248	120	330
196	126	68	207
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

10)

306	_____	226
171	_____	125
<hr/>		

11)

306	_____	195
301	_____	218
<hr/>		

4)

633	268	253	281
971	386	425	530
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

12)

86	_____	195
90	_____	201
<hr/>		

5)

609	734	653	444
929	941	953	740
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

For each incorrect answer,
15" is added
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taken to solve
problems

6'00"~	: Need Work
5'30"~6'00" : Acceptable	
5'00"~5'30" : Average	
4'30"~5'00" : good	
4'00"~4'30" : Excellent	
~4'00" : Superior	

1)	$\frac{189}{205} > \frac{182}{213} > \frac{222}{285} > \frac{149}{212}$
0.922	0.854

2)	$\frac{192}{338} > \frac{119}{243} > \frac{144}{311} > \frac{73}{168}$
0.568	0.490

3)	$\frac{248}{126} > \frac{120}{68} > \frac{331}{196} > \frac{330}{207}$
1.968	1.765

4)	$\frac{268}{386} > \frac{633}{971} > \frac{253}{425} > \frac{281}{530}$
0.694	0.652

5)	$\frac{734}{941} > \frac{653}{953} > \frac{609}{929} > \frac{444}{740}$
0.780	0.685

6)	$\frac{212}{284}$	231.25%	64
0.746		<-	79
		259.49%	0.810
		9.85%	
7)	203	->	223
1.180		->	211
		22.67%	1.057
		0.00%	
8)	189	->	189
0.703		->	297
		10.41%	0.636
		14.51%	
9)	193	->	221
1.206		->	162
		1.25%	1.364
		35.40%	
10)	306	<-	226
1.789		<-	125
		36.80%	1.808
		56.92%	
11)	306	<-	195
1.017		<-	218
		38.07%	0.894
		126.74%	
12)	86	->	195
0.956		->	201
		123.33%	0.970
		27.87%	
13)	183	->	234
5.229		->	51
		45.71%	4.588
		41.90%	
14)	149	<-	105
1.112		<-	91
		47.25%	1.154
		7.38%	
15)	160	<-	149
0.889		<-	167
		7.78%	0.892

1)

202	136	182	205
310	187	232	231
<hr/>			
_____ > _____ > _____ > _____			

6)

293		171
311		190
<hr/>		

7)

218		180
199		146
<hr/>		

2)

210	317	113	256
129	232	78	148
<hr/>			
_____ > _____ > _____ > _____			

8)

308		280
186		156
<hr/>		

9)

156		174
294		328
<hr/>		

3)

190	311	283	203
160	324	219	185
<hr/>			
_____ > _____ > _____ > _____			

10)

128		163
156		215
<hr/>		

11)

212		235
101		108
<hr/>		

4)

881	593	798	647
750	675	743	667
<hr/>			
_____ > _____ > _____ > _____			

12)

195		152
265		211
<hr/>		

5)

565	628	358	764
972	943	476	883
<hr/>			
_____ > _____ > _____ > _____			

13)

105		107
104		109
<hr/>		

14)

30		93
23		81
<hr/>		

15)

231		119
328		183
<hr/>		

For each incorrect answer,
15" is added
to the time
taken to solve
problems

6'00"~	: Need Work
5'30"~6'00" : Acceptable	
5'00"~5'30" : Average	
4'30"~5'00" : good	
4'00"~4'30" : Excellent	
~4'00" : Superior	

1)	$\frac{205}{231} > \frac{182}{232} > \frac{136}{187} > \frac{202}{310}$
0.887	0.784

2)	$\frac{256}{148} > \frac{210}{129} > \frac{113}{78} > \frac{317}{232}$
1.730	1.628

3)	$\frac{283}{219} > \frac{190}{160} > \frac{203}{185} > \frac{311}{324}$
1.292	1.188

4)	$\frac{881}{750} > \frac{798}{743} > \frac{647}{667} > \frac{593}{675}$
1.175	1.074

5)	$\frac{764}{883} > \frac{358}{476} > \frac{628}{943} > \frac{565}{972}$
0.865	0.752

6)	$\frac{293}{311} < \frac{311}{0.942}$
71.35%	<-
171	<u>190</u>
1.900	0.900
21.11%	
7)	$\frac{218}{199} < \frac{199}{1.095}$
21.11%	<-
180	<u>146</u>
1.233	1.233
10.00%	
8)	$\frac{308}{186} < \frac{186}{1.656}$
10.00%	<-
280	<u>156</u>
1.795	1.795
19.23%	
9)	$\frac{156}{294} < \frac{294}{0.531}$
11.54%	->
174	<u>328</u>
0.530	0.530
11.56%	
10)	$\frac{128}{156} < \frac{156}{0.821}$
27.34%	->
163	<u>215</u>
0.758	0.758
37.82%	
11)	$\frac{212}{101} < \frac{101}{2.099}$
10.85%	->
235	<u>108</u>
2.176	2.176
6.93%	
12)	$\frac{195}{265} < \frac{265}{0.736}$
28.29%	->
152	<u>211</u>
0.720	0.720
25.59%	
13)	$\frac{105}{104} < \frac{104}{1.010}$
1.90%	->
107	<u>109</u>
0.982	0.982
4.81%	
14)	$\frac{30}{23} < \frac{23}{1.304}$
210.00%	->
93	<u>81</u>
1.148	1.148
252.17%	
15)	$\frac{231}{328} < \frac{328}{0.704}$
94.12%	->
119	<u>183</u>
0.650	0.650
79.23%	

1)

255	270	277	37
236	219	200	25
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

6)

300	_____	105
158	_____	49
<hr/>		

7)

107	_____	233
162	_____	321
<hr/>		

2)

220	329	203	282
224	311	160	246
<hr/>			
_____	_____	_____	_____

8)

103	_____	141
128	_____	189
<hr/>		

9)

163	_____	151
190	_____	153
<hr/>		

3)

224	124	199	173
197	119	240	180
<hr/>			
_____	_____	_____	_____

10)

185	_____	271
149	_____	208
<hr/>		

11)

154	_____	232
51	_____	83
<hr/>		

4)

590	713	840	597
590	901	936	712
<hr/>			
_____	_____	_____	_____

12)

85	_____	52
240	_____	127
<hr/>		

5)

658	226	425	884
817	297	438	999
<hr/>			
_____	_____	_____	_____

For each incorrect answer,
15" is added
to the time
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problems

6'00"~	: Need Work
5'30"~6'00" : Acceptable	
5'00"~5'30" : Average	
4'30"~5'00" : good	
4'00"~4'30" : Excellent	
~4'00" : Superior	

1)	$\frac{37}{25} > \frac{277}{200} > \frac{270}{219} > \frac{255}{236}$
1.480	1.385

2)	$\frac{203}{160} > \frac{282}{246} > \frac{329}{311} > \frac{220}{224}$
1.269	1.146

3)	$\frac{224}{197} > \frac{124}{119} > \frac{173}{180} > \frac{199}{240}$
1.137	1.042

4)	$\frac{590}{590} > \frac{840}{936} > \frac{597}{712} > \frac{713}{901}$
1.000	0.897

5)	$\frac{425}{438} > \frac{884}{999} > \frac{658}{817} > \frac{226}{297}$
0.970	0.885

6)	$\frac{300}{158}$	185.71%	105
	1.899	<-	49
		222.45%	2.143
7)	$\frac{107}{162}$	117.76%	233
	0.660	->	321
		98.15%	0.726
8)	$\frac{103}{128}$	36.89%	141
	0.805	->	189
		47.66%	0.746
9)	$\frac{163}{190}$	7.95%	151
	0.858	<-	153
		24.18%	0.987
10)	$\frac{185}{149}$	46.49%	271
	1.242	->	208
		39.60%	1.303
11)	$\frac{154}{51}$	50.65%	232
	3.020	->	83
		62.75%	2.795
12)	$\frac{85}{240}$	63.46%	52
	0.354	<-	127
		88.98%	0.409
13)	$\frac{41}{150}$	78.05%	73
	0.273	->	231
		54.00%	0.316
14)	$\frac{100}{48}$	221.00%	321
	2.083	->	162
		237.50%	1.981
15)	$\frac{279}{89}$	6.09%	296
	3.135	->	107
		20.22%	2.766

2:51.

1) $\begin{array}{r} 267 \\ \times 152 \\ \hline 267 \\ 226 \\ \hline 152 \end{array}$ $\begin{array}{r} 340 \\ \times 226 \\ \hline 226 \\ 138 \\ \hline 45 \end{array}$ $\begin{array}{r} 278 \\ \times 138 \\ \hline 138 \\ 45 \\ \hline 71 \end{array}$

$\begin{array}{r} > \\ 2 \\ \hline 2 \end{array} > \begin{array}{r} 4 \\ > \\ 1 \\ \hline 2 \end{array} > \begin{array}{r} < \\ 1 \\ \hline 2 \end{array}$

2) $\begin{array}{r} 243 \\ \times 105 \\ \hline 243 \\ 160 \\ \hline 105 \end{array}$ $\begin{array}{r} 338 \\ \times 160 \\ \hline 338 \\ 160 \\ \hline 103 \end{array}$ $\begin{array}{r} 188 \\ \times 97 \\ \hline 188 \\ 97 \\ \hline 253 \end{array}$

$\begin{array}{r} 2 \\ > \\ 2 \end{array} > \begin{array}{r} 4 \\ > \\ 1 \end{array}$

3) $\begin{array}{r} 187 \\ \times 259 \\ \hline 187 \\ 290 \\ \hline 259 \end{array}$ $\begin{array}{r} 252 \\ \times 290 \\ \hline 252 \\ 290 \\ \hline 289 \end{array}$ $\begin{array}{r} 184 \\ \times 221 \\ \hline 184 \\ 221 \\ \hline 176 \end{array}$

$\begin{array}{r} 3 \\ > \\ 1 \end{array} > \begin{array}{r} 4 \\ > \\ 2 \end{array}$

4) $\begin{array}{r} 991 \\ \times 592 \\ \hline 991 \\ 592 \\ \hline 561 \end{array}$ $\begin{array}{r} 561 \\ \times 313 \\ \hline 561 \\ 313 \\ \hline 284 \end{array}$ $\begin{array}{r} 284 \\ \times 148 \\ \hline 284 \\ 148 \\ \hline 920 \end{array}$

$\begin{array}{r} 3 \\ > \\ 4 \end{array} > \begin{array}{r} 2 \\ > \\ 1 \end{array}$

5) $\begin{array}{r} 314 \\ \times 461 \\ \hline 314 \\ 866 \\ \hline 500 \end{array}$ $\begin{array}{r} 500 \\ \times 901 \\ \hline 500 \\ 901 \\ \hline 484 \end{array}$ $\begin{array}{r} 484 \\ \times 864 \\ \hline 484 \\ 864 \\ \hline 542 \end{array}$

$\begin{array}{r} 1 \\ > \\ 2 \end{array} > \begin{array}{r} 4 \\ > \\ 2 \end{array}$

6) $\begin{array}{r} 228 \\ \times 303 \\ \hline 228 \\ 303 \\ \hline 133 \end{array}$

7) $\begin{array}{r} 246 \\ \times 334 \\ \hline 246 \\ 334 \\ \hline 36 \end{array}$

8) $\begin{array}{r} 324 \\ \times 146 \\ \hline 324 \\ 146 \\ \hline 213 \end{array}$

9) $\begin{array}{r} 81 \\ \times 60 \\ \hline 81 \\ 60 \\ \hline 331 \end{array}$

10) $\begin{array}{r} 218 \\ \times 211 \\ \hline 218 \\ 211 \\ \hline 115 \end{array}$

11) $\begin{array}{r} 305 \\ \times 187 \\ \hline 305 \\ 187 \\ \hline 212 \end{array}$

12) $\begin{array}{r} 322 \\ \times 335 \\ \hline 322 \\ 335 \\ \hline 96 \end{array}$

13) $\begin{array}{r} 207 \\ \times 116 \\ \hline 207 \\ 116 \\ \hline 273 \end{array}$

14) $\begin{array}{r} 161 \\ \times 104 \\ \hline 161 \\ 104 \\ \hline 265 \end{array}$

15) $\begin{array}{r} 332 \\ \times 133 \\ \hline 332 \\ 133 \\ \hline 49 \end{array}$

For each incorrect answer,
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6'00"~ : Need Work

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5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{278}{138} > \frac{267}{152} > \frac{71}{45} > \frac{340}{226}$		
2.014	1.757	1.578	1.504

2)	$\frac{253}{97} > \frac{243}{105} > \frac{338}{160} > \frac{188}{103}$		
2.608	2.314	2.113	1.825

3)	$\frac{252}{290} > \frac{176}{221} > \frac{187}{259} > \frac{184}{289}$		
0.869	0.796	0.722	0.637

4)	$\frac{920}{427} > \frac{284}{148} > \frac{561}{313} > \frac{991}{592}$		
2.155	1.919	1.792	1.674

5)	$\frac{314}{461} > \frac{542}{864} > \frac{500}{866} > \frac{484}{901}$		
0.681	0.627	0.577	0.537

6)	$\frac{228}{303}$	71.43%	133
	0.752	<-	153
		98.04%	0.869
7)	$\frac{246}{334}$	583.33%	36
	0.737	<-	49
		581.63%	0.735
8)	$\frac{324}{146}$	52.11%	213
	2.219	<-	89
		64.04%	2.393
9)	$\frac{81}{60}$	308.64%	331
	1.350	>-	240
		300.00%	1.379
10)	$\frac{218}{211}$	89.57%	115
	1.033	<-	97
		117.53%	1.186
11)	$\frac{305}{187}$	43.87%	212
	1.631	<-	137
		36.50%	1.547
12)	$\frac{322}{335}$	235.42%	96
	0.961	<-	89
		276.40%	1.079
13)	$\frac{207}{116}$	31.88%	273
	1.784	>-	162
		39.66%	1.685
14)	$\frac{161}{104}$	64.60%	265
	1.548	>-	154
		48.08%	1.721
15)	$\frac{332}{133}$	577.55%	49
	2.496	<-	20
		565.00%	2.450

3: 55

1)

$$\begin{array}{r} 78 \\ 173 \\ \hline 166 \\ 328 \\ \hline 146 \\ 256 \\ \hline 132 \\ 202 \\ \hline \end{array}$$

4 > 3 > 2 > 1

2)

$$\begin{array}{r} 24 \\ 14 \\ \hline 270 \\ 136 \\ \hline 30 \\ 20 \\ \hline 264 \\ 201 \\ \hline \end{array}$$

2 > 1 > 3 > 4

3)

$$\begin{array}{r} 233 \\ 204 \\ \hline 77 \\ 82 \\ \hline 257 \\ 305 \\ \hline 341 \\ 340 \\ \hline \end{array}$$

1 > 2 > 4 > 3

4)

$$\begin{array}{r} 999 \\ 714 \\ \hline 994 \\ 823 \\ \hline 499 \\ 458 \\ \hline 342 \\ 357 \\ \hline \end{array}$$

1 > 2 > 3 > 4

5)

$$\begin{array}{r} 650 \\ 757 \\ \hline 905 \\ 969 \\ \hline 427 \\ 568 \\ \hline 331 \\ 420 \\ \hline \end{array}$$

2 > 1 > 3 > 4

6)

$$\begin{array}{r} 273 \\ 285 \\ \hline 240 \\ 285 \\ \hline \end{array}$$

<

7)

$$\begin{array}{r} 164 \\ 113 \\ \hline 262 \\ 171 \\ \hline \end{array}$$

<

8)

$$\begin{array}{r} 311 \\ 171 \\ \hline 176 \\ 84 \\ \hline \end{array}$$

<

9)

$$\begin{array}{r} 85 \\ 14 \\ \hline 77 \\ 12 \\ \hline \end{array}$$

<

10)

$$\begin{array}{r} 331 \\ 148 \\ \hline 224 \\ 89 \\ \hline \end{array}$$

<

11)

$$\begin{array}{r} 306 \\ 319 \\ \hline 247 \\ 241 \\ \hline \end{array}$$

<

12)

$$\begin{array}{r} 51 \\ 107 \\ \hline 68 \\ 148 \\ \hline \end{array}$$

>

13)

$$\begin{array}{r} 282 \\ 153 \\ \hline 137 \\ 71 \\ \hline \end{array}$$

<

14)

$$\begin{array}{r} 304 \\ 339 \\ \hline 232 \\ 240 \\ \hline \end{array}$$

<

15)

$$\begin{array}{r} 128 \\ 82 \\ \hline 281 \\ 176 \\ \hline \end{array}$$

<

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5'30"~6'00"	: Acceptable
5'00"~5'30"	: Average
4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

3: ~

1)

$$\frac{132}{202} > \frac{146}{256} > \frac{166}{328} > \frac{78}{173}$$

0.653

0.570

0.506

0.451

2)

$$\frac{270}{136} > \frac{24}{14} > \frac{30}{20} > \frac{264}{201}$$

1.985

1.714

1.500

1.313

3)

$$\frac{233}{204} > \frac{341}{340} > \frac{77}{82} > \frac{257}{305}$$

1.142

1.003

0.939

0.843

4)

$$\frac{999}{714} > \frac{994}{823} > \frac{499}{458} > \frac{342}{357}$$

1.399

1.208

1.090

0.958

5)

$$\frac{905}{969} > \frac{650}{757} > \frac{331}{420} > \frac{427}{568}$$

0.934

0.859

0.788

0.752

6)

273

328

0.832

13.75%

<-

240

285

0.842

7)

164

113

1.451

59.76%

->

262

171

1.532

8)

311

171

1.819

76.70%

<-

176

84

2.095

9)

85

14

6.071

10.39%

<-

77

12

6.417

10)

331

148

2.236

47.77%

<-

224

89

2.517

11)

306

319

0.959

23.89%

<-

247

241

1.025

12)

51

107

0.477

33.33%

->

68

148

0.459

13)

282

153

1.843

105.84%

<-

137

71

1.930

14)

304

339

0.897

31.03%

<-

232

240

0.967

15)

128

82

1.561

119.53%

->

281

176

1.597

1)

203	315	307	255
209	<u>272</u>	<u>300</u>	<u>233</u>
4	1	3	2

 > > >

2)

301	303	212	193
287	<u>306</u>	<u>230</u>	<u>234</u>
1	2	3	4

 > > >

3)

77	48	103	218
27	12	29	<u>66</u>
4	1	2	3

 > > >

~~4)~~

314	739	867	912
216	402	<u>554</u>	<u>529</u>
4	1	3	2

 > > >

~~5)~~

364	570	704	771
292	476	615	576
2	3	4	1

 > > >

6)

114	138
251	263
<	●

7)

180	158
301	276
>	●

8)

161	71
220	109
>	●

9)

272	303
236	242
<	●

10)

87	231
54	140
<	●

11)

239	288
178	185
<	●

12)

290	140
167	83
>	●

13)

177	245
166	213
<	●

14)

224	318
98	141
>	●

15)

147	125
274	216
<	●

For each incorrect answer,
15" is added
to the time
taken to solve
problems

6'00"~	: Need Work
5'30"~6'00"	: Acceptable
5'00"~5'30"	: Average
4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

1)	$\frac{315}{272} > \frac{255}{233} > \frac{307}{300} > \frac{203}{209}$
1.158	1.094

2)	$\frac{301}{287} > \frac{303}{306} > \frac{212}{230} > \frac{193}{234}$
1.049	0.990

3)	$\frac{48}{12} > \frac{103}{29} > \frac{218}{66} > \frac{77}{27}$
4.000	3.552

4)	$\frac{739}{402} > \frac{912}{529} > \frac{867}{554} > \frac{314}{216}$
1.838	1.724

5)	$\frac{771}{576} > \frac{364}{292} > \frac{570}{476} > \frac{704}{615}$
1.339	1.247

6)	$\frac{114}{251}$	21.05%	138
	0.454	->	263
		4.78%	0.525
7)	$\frac{180}{301}$	13.92%	158
	0.598	<-	276
		9.06%	0.572
8)	$\frac{161}{220}$	126.76%	71
	0.732	<-	109
		101.83%	0.651
9)	$\frac{272}{236}$	11.40%	303
	1.153	->	242
		2.54%	1.252
10)	$\frac{87}{54}$	165.52%	231
	1.611	->	140
		159.26%	1.650
11)	$\frac{239}{178}$	20.50%	288
	1.343	->	185
		3.93%	1.557
12)	$\frac{290}{167}$	107.14%	140
	1.737	<-	83
		101.20%	1.687
13)	$\frac{177}{166}$	38.42%	245
	1.066	->	213
		28.31%	1.150
14)	$\frac{224}{98}$	41.96%	318
	2.286	->	141
		43.88%	2.255
15)	$\frac{147}{274}$	17.60%	125
	0.536	<-	216
		26.85%	0.579

3 : 40

J/n
10/1

1)

$$\begin{array}{r} 308 \\ 328 \\ \hline 245 \\ \hline 209 \\ \hline 233 \\ \hline 223 \\ \hline 295 \\ \hline 263 \end{array}$$

$$\begin{array}{r} 4 \\ 1 \\ \hline > \quad > \quad 3 \quad > \quad 2 \end{array}$$

6)

$$\begin{array}{r} 192 \\ 271 \\ \hline < \end{array} \quad \begin{array}{r} 145 \\ 204 \\ \hline \end{array}$$

7)

$$\begin{array}{r} 177 \\ 187 \\ \hline < \end{array} \quad \begin{array}{r} 285 \\ 287 \\ \hline \end{array}$$

8)

$$\begin{array}{r} 306 \\ 240 \\ \hline > \end{array} \quad \begin{array}{r} 64 \\ 54 \\ \hline 320 \\ 270 \end{array}$$

9)

$$\begin{array}{r} 80 \\ 153 \\ \hline > \end{array} \quad \begin{array}{r} 38 \\ 81 \\ \hline \end{array}$$

10)

$$\begin{array}{r} 308 \\ 88 \\ \hline < \end{array} \quad \begin{array}{r} 287 \\ 78 \\ \hline \end{array}$$

11)

$$\begin{array}{r} 240 \\ 332 \\ \hline < \end{array} \quad \begin{array}{r} 185 \\ 253 \\ \hline \end{array}$$

12)

$$\begin{array}{r} 18 \\ 111 \\ \hline < \end{array} \quad \begin{array}{r} 16 \\ 91 \\ \hline \end{array}$$

13)

$$\begin{array}{r} 169 \\ 173 \\ \hline > \end{array} \quad \begin{array}{r} 276 \\ 305 \\ \hline \end{array}$$

14)

$$\begin{array}{r} 243 \\ 103 \\ \hline < \end{array} \quad \begin{array}{r} 287 \\ 119 \\ \hline \end{array}$$

15)

$$\begin{array}{r} 165 \\ 242 \\ \hline < \end{array} \quad \begin{array}{r} 228 \\ 301 \\ \hline \end{array}$$

3)

$$\begin{array}{r} 200 \\ 225 \\ \hline 45 \\ 48 \\ \hline 225 \\ 240 \\ \hline 209 \\ 192 \\ \hline 241 \\ 243 \end{array}$$

$$\begin{array}{r} 4 \\ 3 \\ \hline > \quad > \quad 2 \quad > \quad 2 \quad 2 \\ \hline 1 \end{array}$$

4)

$$\begin{array}{r} 769 \\ 917 \\ \hline 726 \\ 971 \\ \hline 911 \\ 986 \\ \hline 274 \\ 340 \\ \hline 276 \\ 1020. \end{array}$$

$$\begin{array}{r} 2 \\ 4 \\ \hline > \quad > \quad 1 \quad > \quad 3 \end{array}$$

5)

$$\begin{array}{r} 343 \\ 438 \\ \hline 505 \\ 675 \\ \hline 719 \\ 840 \\ \hline 893 \\ 912 \end{array}$$

$$\begin{array}{r} 4 \\ 7 \\ \hline > \quad > \quad 3 \quad > \quad 2 \quad > \quad 1 \\ \hline \end{array}$$

For each incorrect answer,
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problems

6'00"~ : Need Work

5'30"~6'00" : Acceptable

5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{245}{209} > \frac{295}{263} > \frac{233}{223} > \frac{308}{328}$	1.172	1.122	1.045	0.939
----	---	-------	-------	-------	-------

2)	$\frac{248}{229} > \frac{272}{263} > \frac{47}{52} > \frac{120}{146}$	1.083	1.034	0.904	0.822
----	---	-------	-------	-------	-------

3)	$\frac{209}{192} > \frac{241}{243} > \frac{45}{48} > \frac{200}{225}$	1.089	0.992	0.938	0.889
----	---	-------	-------	-------	-------

4)	$\frac{911}{986} > \frac{769}{917} > \frac{274}{340} > \frac{726}{971}$	0.924	0.839	0.806	0.748
----	---	-------	-------	-------	-------

5)	$\frac{893}{912} > \frac{719}{840} > \frac{343}{438} > \frac{505}{675}$	0.979	0.856	0.783	0.748
----	---	-------	-------	-------	-------

6)	$\frac{192}{271}$	32.41%	<-	145	204
	0.708	32.84%	<-	0.711	
7)	$\frac{177}{187}$	61.02%	->	285	287
	0.947	53.48%	->	0.993	
8)	$\frac{306}{240}$	378.13%	<-	64	54
	1.275	344.44%	<-	1.185	
9)	$\frac{80}{153}$	110.53%	<-	38	81
	0.523	88.89%	<-	0.469	
10)	$\frac{308}{88}$	7.32%	<-	287	78
	3.500	12.82%	<-	3.679	
11)	$\frac{240}{332}$	29.73%	<-	185	253
	0.723	31.23%	<-	0.731	
12)	$\frac{18}{111}$	12.50%	<-	16	91
	0.162	21.98%	<-	0.176	
13)	$\frac{169}{173}$	63.31%	->	276	305
	0.977	76.30%	->	0.905	
14)	$\frac{243}{103}$	18.11%	->	287	119
	2.359	15.53%	->	2.412	
15)	$\frac{165}{242}$	38.18%	->	228	301
	0.682	24.38%	->	0.757	

3:15

01/03

10/2

1)

$$\begin{array}{r} 78 \\ \underline{-68} \\ 10 \\ > \end{array} \quad \begin{array}{r} 334 \\ \underline{-307} \\ 27 \\ > \end{array} \quad \begin{array}{r} 299 \\ \underline{-237} \\ 62 \\ > \end{array} \quad \begin{array}{r} 80 \\ \underline{-57} \\ 23 \\ > \end{array}$$

2)

$$\begin{array}{r} 246 \\ \underline{-178} \\ 68 \\ > \end{array} \quad \begin{array}{r} 327 \\ \underline{-189} \\ 138 \\ > \end{array} \quad \begin{array}{r} 241 \\ \underline{-152} \\ 89 \\ > \end{array} \quad \begin{array}{r} 276 \\ \underline{-143} \\ 133 \\ > \end{array}$$

3)

$$\begin{array}{r} 277 \\ \underline{-315} \\ -38 \\ > \end{array} \quad \begin{array}{r} 228 \\ \underline{-221} \\ 7 \\ > \end{array} \quad \begin{array}{r} 273 \\ \underline{-338} \\ -65 \\ > \end{array} \quad \begin{array}{r} 206 \\ \underline{-225} \\ -19 \\ > \end{array}$$

4)

~~$$\begin{array}{r} 545 \\ \underline{-137} \\ 408 \\ > \end{array} \quad \begin{array}{r} 743 \\ \underline{-221} \\ 522 \\ > \end{array} \quad \begin{array}{r} 561 \\ \underline{-185} \\ 376 \\ > \end{array} \quad \begin{array}{r} 558 \\ \underline{-155} \\ 403 \\ > \end{array}$$~~

54
1
4
2

5)

~~$$\begin{array}{r} 539 \\ \underline{-591} \\ -52 \\ > \end{array} \quad \begin{array}{r} 544 \\ \underline{-796} \\ -252 \\ > \end{array} \quad \begin{array}{r} 390 \\ \underline{-493} \\ -103 \\ > \end{array} \quad \begin{array}{r} 744 \\ \underline{-724} \\ 20 \\ > \end{array}$$~~

2
4
7
1

6)

$$\begin{array}{r} 237 \\ \underline{-284} \\ -47 \\ > \end{array} \quad > \quad \begin{array}{r} 125 \\ \underline{-170} \\ -45 \\ > \end{array}$$

7)

$$\begin{array}{r} 304 \\ \underline{-254} \\ 50 \\ > \end{array} \quad > \quad \begin{array}{r} 196 \\ \underline{-177} \\ 19 \\ > \end{array}$$

8)

$$\begin{array}{r} 194 \\ \underline{-218} \\ -24 \\ < \end{array} \quad < \quad \begin{array}{r} 320 \\ \underline{-339} \\ -19 \\ < \end{array}$$

9)

$$\begin{array}{r} 118 \\ \underline{-99} \\ 19 \\ < \end{array} \quad < \quad \begin{array}{r} 223 \\ \underline{-165} \\ 58 \\ < \end{array}$$

10)

$$\begin{array}{r} 208 \\ \underline{-97} \\ 111 \\ < \end{array} \quad < \quad \begin{array}{r} 263 \\ \underline{-107} \\ 156 \\ < \end{array}$$

11)

$$\begin{array}{r} 257 \\ \underline{-47} \\ 210 \\ > \end{array} \quad > \quad \begin{array}{r} 197 \\ \underline{-38} \\ 159 \\ > \end{array}$$

12)

$$\begin{array}{r} 306 \\ \underline{-198} \\ 108 \\ < \end{array} \quad < \quad \begin{array}{r} 181 \\ \underline{-106} \\ 75 \\ < \end{array}$$

13)

$$\begin{array}{r} 39 \\ \underline{-134} \\ -95 \\ < \end{array} \quad < \quad \begin{array}{r} 58 \\ \underline{-172} \\ -114 \\ < \end{array}$$

14)

$$\begin{array}{r} 214 \\ \underline{-164} \\ 50 \\ < \end{array} \quad < \quad \begin{array}{r} 222 \\ \underline{-167} \\ 55 \\ < \end{array}$$

15)

$$\begin{array}{r} 324 \\ \underline{-276} \\ 48 \\ < \end{array} \quad < \quad \begin{array}{r} 220 \\ \underline{-164} \\ 56 \\ < \end{array}$$

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4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

8/13
10/1~

1)			
80	>	299	>
57	237	68	307
1.404	1.262	1.147	1.088

2)			
276	>	327	>
143	189	152	178
1.930	1.730	1.586	1.382

3)			
228	>	206	>
221	225	315	338
1.032	0.916	0.879	0.808

4)			
545	>	558	>
137	155	221	185
3.978	3.600	3.362	3.032

5)			
744	>	539	>
724	591	493	796
1.028	0.912	0.791	0.683

6)	237	89.60%	125
	284	<-	170
	0.835	67.06%	0.735
7)	304	55.10%	196
	254	<-	177
	1.197	43.50%	1.107
8)	194	64.95%	320
	218	->	339
	0.890	55.50%	0.944
9)	118	88.98%	223
	99	->	165
	1.192	66.67%	1.352
10)	208	26.44%	263
	97	->	107
	2.144	10.31%	2.458
11)	257	30.46%	197
	47	<-	38
	5.468	23.68%	5.184
12)	306	69.06%	181
	198	<-	106
	1.545	86.79%	1.708
13)	39	48.72%	58
	134	->	172
	0.291	28.36%	0.337
14)	214	3.74%	222
	164	->	167
	1.305	1.83%	1.329
15)	324	47.27%	220
	276	<-	164
	1.174	68.29%	1.341

2/14

3

1)

129	172	281	200
171	261	340	324
<hr/>			
_____ > _____ > _____ > _____			

6)

139		266
158		294
<hr/>		

2)

341	332	270	56
298	329	298	67
<hr/>			
_____ > _____ > _____ > _____			

8)

214		291
235		275
<hr/>		

3)

184	115	64	274
153	106	44	218
<hr/>			
_____ > _____ > _____ > _____			

9)

218		104
178		81
<hr/>		

4)

741	870	809	621
935	937	916	875
<hr/>			
_____ > _____ > _____ > _____			

10)

245		136
201		104
<hr/>		

5)

554	579	811	469
356	465	690	349
<hr/>			
_____ > _____ > _____ > _____			

11)

195		240
92		129
<hr/>		

12)

93		78
161		141
<hr/>		

13)

86		144
119		204
<hr/>		

14)

170		182
277		304
<hr/>		

15)

308		248
281		201
<hr/>		

For each incorrect answer,
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6'00"~	: Need Work
5'30"~6'00" : Acceptable	
5'00"~5'30" : Average	
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4'00"~4'30" : Excellent	
~4'00" : Superior	

14

1)

$$\frac{281}{340} > \frac{129}{171} > \frac{172}{261} > \frac{200}{324}$$

0.826

0.754

0.659

0.617

1)

6)

139

158

0.880

91.37%

>

266

294

0.905

2)

$$\frac{341}{298} > \frac{332}{329} > \frac{270}{298} > \frac{56}{67}$$

1.144

1.009

0.906

0.836

3)

$$\frac{64}{44} > \frac{274}{218} > \frac{184}{153} > \frac{115}{106}$$

1.455

1.257

1.203

1.085

4)

$$\frac{870}{937} > \frac{809}{916} > \frac{741}{935} > \frac{621}{875}$$

0.928

0.883

0.793

0.710

5)

$$\frac{554}{356} > \frac{469}{349} > \frac{579}{465} > \frac{811}{690}$$

1.556

1.344

1.245

1.175

7)

302

301

1.003

11.03%

<-

272

294

0.925

8)

214

235

0.911

35.98%

>

291

275

1.058

9)

218

178

1.225

109.62%

<-

104

81

1.284

10)

245

201

1.219

80.15%

<-

136

104

1.308

11)

195

92

2.120

23.08%

>

240

129

1.860

12)

93

161

0.578

19.23%

<-

78

141

0.553

13)

86

119

0.723

67.44%

>

144

204

0.706

14)

170

277

0.614

7.06%

>

182

304

0.599

15)

308

281

1.096

24.19%

<-

248

201

1.234

J/17
4

1)

276	319	298	304
92	94	76	81
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

2)

200	194	231	235
255	210	272	236
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

3)

257	214	324	260
278	219	294	213
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

4)

983	262	940	755
921	260	780	794
<hr/>			
_____	_____	_____	_____

_____ > _____ > _____ > _____

5)

59	282	922	846
76	316	874	889
<hr/>			
_____	_____	_____	_____

6)

278		302
276		336
<hr/>		

7)

248		193
298		214
<hr/>		

8)

187		75
339		136
<hr/>		

9)

307		155
340		148
<hr/>		

10)

53		40
33		25
<hr/>		

11)

292		84
319		100
<hr/>		

12)

314		175
229		115
<hr/>		

13)

233		103
223		92
<hr/>		

14)

79		56
75		52
<hr/>		

15)

331		59
167		29
<hr/>		

For each incorrect answer,
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5'30"~6'00" : Acceptable	
5'00"~5'30" : Average	
4'30"~5'00" : good	
4'00"~4'30" : Excellent	
~4'00" : Superior	

d/yr

4

1)	$\frac{298}{76} > \frac{304}{81} > \frac{319}{94} > \frac{276}{92}$
3.921	3.753

2)	$\frac{235}{236} > \frac{194}{210} > \frac{231}{272} > \frac{200}{255}$
0.996	0.924

3)	$\frac{260}{213} > \frac{324}{294} > \frac{214}{219} > \frac{257}{278}$
1.221	1.102

4)	$\frac{940}{780} > \frac{983}{921} > \frac{262}{260} > \frac{755}{794}$
1.205	1.067

5)	$\frac{922}{874} > \frac{846}{889} > \frac{282}{316} > \frac{59}{76}$
1.055	0.952

6)	$\frac{278}{276} > \frac{276}{1.007}$
302	336
0.899	
8.63%	
->	
21.74%	
28.50%	
<-	
39.25%	
149.33%	
<-	
149.26%	
98.06%	
<-	
129.73%	
32.50%	
<-	
32.00%	
247.62%	
<-	
219.00%	
79.43%	
<-	
99.13%	
126.21%	
<-	
142.39%	
41.07%	
<-	
44.23%	
461.02%	
<-	
475.86%	

$\gamma = 15$

1) $\begin{array}{r} 192 \\ - 238 \\ \hline 167 \end{array}$ $\begin{array}{r} 200 \\ - 270 \\ \hline 258 \end{array}$ $\begin{array}{r} 270 \\ - 131 \\ \hline 145 \end{array}$ $\begin{array}{r} 131 \\ - 145 \\ \hline 14 \end{array}$

$\cancel{1} > \cancel{1} > \cancel{2} > \cancel{14}$

2) $\begin{array}{r} 285 \\ - 305 \\ \hline 146 \end{array}$ $\begin{array}{r} 164 \\ - 260 \\ \hline 218 \end{array}$ $\begin{array}{r} 260 \\ - 334 \\ \hline 330 \end{array}$

$4 > 2 > 1 > 6$

3) $\begin{array}{r} 181 \\ - 180 \\ \hline 147 \end{array}$ $\begin{array}{r} 242 \\ - 251 \\ \hline 21 \end{array}$ $\begin{array}{r} 253 \\ - 310 \\ \hline 43 \end{array}$

$1 > 3 > 2 > 4$

4) $\begin{array}{r} 394 \\ - 490 \\ \hline 725 \end{array}$ $\begin{array}{r} 598 \\ - 899 \\ \hline 301 \end{array}$ $\begin{array}{r} 645 \\ - 878 \\ \hline 233 \end{array}$

$2 > 1 > 4 > 3$

5) $\begin{array}{r} 294 \\ - 469 \\ \hline 263 \end{array}$ $\begin{array}{r} 330 \\ - 570 \\ \hline 240 \end{array}$ $\begin{array}{r} 570 \\ - 818 \\ \hline 76 \end{array}$

$\gamma > 1 > 4 > 2$

6) $\begin{array}{r} 334 \\ - 315 \\ \hline 19 \end{array}$ $\boxed{>} \quad \begin{array}{r} 150 \\ - 154 \\ \hline 6 \end{array}$

7) $\begin{array}{r} 63 \\ - 143 \\ \hline 80 \end{array}$ $\boxed{>} \quad \begin{array}{r} 42 \\ - 102 \\ \hline 60 \end{array}$

8) $\begin{array}{r} 182 \\ - 169 \\ \hline 13 \end{array}$ $\boxed{<} \quad \begin{array}{r} 225 \\ - 186 \\ \hline 39 \end{array}$

9) $\begin{array}{r} 194 \\ - 262 \\ \hline 32 \end{array}$ $\boxed{>} \quad \begin{array}{r} 226 \\ - 335 \\ \hline 109 \end{array}$

10) $\begin{array}{r} 140 \\ - 228 \\ \hline 88 \end{array}$ $\boxed{>} \quad \begin{array}{r} 163 \\ - 273 \\ \hline 110 \end{array}$

11) $\begin{array}{r} 137 \\ - 283 \\ \hline 146 \end{array}$ $\boxed{>} \quad \begin{array}{r} 32 \\ - 73 \\ \hline 41 \end{array}$

12) $\begin{array}{r} 186 \\ - 261 \\ \hline 25 \end{array}$ $\boxed{>} \quad \begin{array}{r} 217 \\ - 320 \\ \hline 103 \end{array}$

13) $\begin{array}{r} 170 \\ - 152 \\ \hline 18 \end{array}$ $\boxed{>} \quad \begin{array}{r} 269 \\ - 242 \\ \hline 27 \end{array}$

14) $\begin{array}{r} 283 \\ - 320 \\ \hline 43 \end{array}$ $\boxed{<} \quad \begin{array}{r} 72 \\ - 76 \\ \hline 4 \end{array}$

15) $\begin{array}{r} 103 \\ - 292 \\ \hline 189 \end{array}$ $\boxed{<} \quad \begin{array}{r} 30 \\ - 76 \\ \hline 46 \end{array}$

For each incorrect answer,
15" is added
to the time
taken to solve
problems

6'00"~	: Need Work
5'30"~6'00"	: Acceptable
5'00"~5'30"	: Average
4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

8/16
5

1)

$$\frac{200}{167} > \frac{270}{258} > \frac{131}{145} > \frac{192}{238}$$

1.198	1.047	0.903	0.807
-------	-------	-------	-------

2)

$$\frac{260}{218} > \frac{164}{146} > \frac{334}{330} > \frac{285}{305}$$

1.193	1.123	1.012	0.934
-------	-------	-------	-------

3)

$$\frac{181}{180} > \frac{242}{251} > \frac{147}{167} > \frac{253}{310}$$

1.006	0.964	0.880	0.816
-------	-------	-------	-------

4)

$$\frac{725}{860} > \frac{394}{490} > \frac{645}{878} > \frac{598}{899}$$

0.843	0.804	0.735	0.665
-------	-------	-------	-------

5)

$$\frac{263}{360} > \frac{570}{818} > \frac{294}{469} > \frac{330}{571}$$

0.731	0.697	0.627	0.578
-------	-------	-------	-------

6)

334
315
1.060

7)

63
143
0.441

8)

182
169
1.077

9)

194
262
0.740

10)

140
228
0.614

11)

137
283
0.484

12)

186
261
0.713

13)

170
152
1.118

14)

283
320
0.884

15)

103
292
0.353

122.67%
<-
150

104.55%
<-
154

50.00%
<-
42

40.20%
<-
102

23.63%
->
225

10.06%
->
186

16.49%
->
226

27.86%
->
335

16.43%
->
163

19.74%
->
273

328.13%
<-
32

287.67%
<-
73

16.67%
->
217

32.61%
->
320

58.24%
->
269

59.21%
->
242

293.06%
<-
72

321.05%
<-
76

243.33%
<-
1.112

284.21%
<-
30

0.395

3:43

8/17
10/6

1)

$$\begin{array}{r} 263 \\ \underline{- 291} \\ 164 \\ \underline{- 150} \\ 278 \\ \underline{- 278} \\ 189 \\ \underline{- 197} \end{array}$$

$$\underline{4} > \underline{1} > \underline{2} > \underline{3}$$

2)

$$\begin{array}{r} 233 \\ \underline{- 310} \\ 157 \\ \underline{- 195} \\ 240 \\ \underline{- 270} \\ 78 \\ \underline{- 111} \end{array}$$

$$\underline{3} > \underline{2} > \underline{1} > \underline{4}$$

3)

$$\begin{array}{r} 164 \\ \underline{- 228} \\ 259 \\ \underline{- 312} \\ 280 \\ \underline{- 306} \\ 166 \\ \underline{- 253} \end{array}$$

$$\underline{3} > \underline{2} > \underline{1} > \underline{4}$$

~~4)~~

$$\begin{array}{r} 950 \\ \underline{- 634} \\ 546 \\ \underline{- 394} \\ 798 \\ \underline{- 668} \\ 969 \\ \underline{- 769} \end{array}$$

5)

$$\begin{array}{r} 557 \\ \underline{- 521} \\ 810 \\ \underline{- 821} \\ 811 \\ \underline{- 712} \\ 589 \\ \underline{- 670} \end{array}$$

$$\underline{2} > \underline{3} > \underline{1} > \underline{4}$$

6)

$$\begin{array}{r} 218 \\ \underline{- 264} \\ < \\ \underline{165} \\ - 188 \end{array}$$

7)

$$\begin{array}{r} 220 \\ \underline{- 241} \\ > \\ \underline{286} \\ - 334 \end{array}$$

8)

$$\begin{array}{r} 130 \\ \underline{- 278} \\ > \\ \underline{117} \\ - 263 \end{array}$$

9)

$$\begin{array}{r} 192 \\ \underline{- 137} \\ < \\ \underline{325} \\ - 203 \end{array}$$

10)

$$\begin{array}{r} 106 \\ \underline{- 132} \\ > \\ \underline{219} \\ - 307 \end{array}$$

11)

$$\begin{array}{r} 293 \\ \underline{- 343} \\ > \\ \underline{178} \\ - 232 \end{array}$$

12)

$$\begin{array}{r} 78 \\ \underline{- 287} \\ 156 \\ \underline{- 146} \\ 10 \\ \underline{- 20} \\ 20 \end{array}$$

13)

$$\begin{array}{r} 224 \\ \underline{- 67} \\ > \\ \underline{125} \\ - 76 \end{array}$$

14)

$$\begin{array}{r} 138 \\ \underline{- 36} \\ < \\ \underline{251} \\ - 61 \end{array}$$

15)

$$\begin{array}{r} 109 \\ \underline{- 310} \\ < \\ \underline{117} \\ - 310 \end{array}$$

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5'30"~6'00" : Acceptable

5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{164}{150} > \frac{278}{278} > \frac{189}{197} > \frac{263}{291}$	1.093	1.000	0.959	0.904
----	---	-------	-------	-------	-------

2)	$\frac{240}{270} > \frac{157}{195} > \frac{233}{310} > \frac{78}{111}$	0.889	0.805	0.752	0.703
----	--	-------	-------	-------	-------

3)	$\frac{280}{306} > \frac{259}{312} > \frac{164}{228} > \frac{166}{253}$	0.915	0.830	0.719	0.656
----	---	-------	-------	-------	-------

4)	$\frac{950}{634} > \frac{546}{394} > \frac{969}{769} > \frac{798}{668}$	1.498	1.386	1.260	1.195
----	---	-------	-------	-------	-------

5)	$\frac{811}{712} > \frac{557}{521} > \frac{810}{821} > \frac{589}{670}$	1.139	1.069	0.987	0.879
----	---	-------	-------	-------	-------

6)	$\frac{218}{264}$	32.12%	<-	165	10/6
	0.826	40.43%	<-	188	
7)	$\frac{220}{241}$	30.00%	->	286	
	0.913	38.59%	->	334	
8)	$\frac{130}{278}$	11.11%	<-	117	
	0.468	5.70%	<-	263	
9)	$\frac{192}{137}$	69.27%	->	325	
	1.401	48.18%	->	203	
10)	$\frac{106}{132}$	106.60%	->	219	
	0.803	132.58%	->	307	
11)	$\frac{293}{343}$	64.61%	<-	178	
	0.854	47.84%	<-	232	
12)	$\frac{78}{287}$	95.00%	<-	40	
	0.272	96.58%	<-	146	
13)	$\frac{224}{67}$	79.20%	<-	125	
	3.343	76.32%	<-	38	
14)	$\frac{138}{36}$	81.88%	->	251	
	3.833	69.44%	->	61	
15)	$\frac{109}{310}$	7.34%	->	4.115	
	0.352	0.00%	->	117	
				310	
				0.377	

10/1

4:24

1) ~~193 62~~ ~~88 38~~ ~~230 24~~ ~~144 55~~

$$\begin{array}{r} 193 \\ \underline{-131} \\ 62 \end{array}$$

$$\begin{array}{r} 88 \\ \underline{-50} \\ 38 \end{array}$$

$$\begin{array}{r} 230 \\ \underline{-136} \\ 94 \end{array}$$

$$\begin{array}{r} 144 \\ \underline{-89} \\ 55 \end{array}$$

4 > 1 > 2 > 3

2) $\begin{array}{r} 257 \\ \underline{-221} \\ 36 \end{array}$ $\begin{array}{r} 303 \\ \underline{-275} \\ 28 \end{array}$ $\begin{array}{r} 267 \\ \underline{-218} \\ 49 \end{array}$ $\begin{array}{r} 314 \\ \underline{-320} \\ -6 \end{array}$

2 > 3 > 1 > 4

3) $\begin{array}{r} 166 \\ \underline{-279} \\ -113 \end{array}$ $\begin{array}{r} 111 \\ \underline{-245} \\ -134 \end{array}$ $\begin{array}{r} 183 \\ \underline{-321} \\ -138 \end{array}$ $\begin{array}{r} 119 \\ \underline{-242} \\ -123 \end{array}$

1 > 4 > 2 > 3

4) $\begin{array}{r} 477 \\ \underline{-398} \\ 79 \end{array}$ $\begin{array}{r} 783 \\ \underline{-605} \\ 178 \end{array}$ $\begin{array}{r} 866 \\ \underline{-842} \\ 24 \end{array}$ $\begin{array}{r} 801 \\ \underline{-702} \\ 99 \end{array}$

2 > 1 > 4 > 3

5) $\begin{array}{r} 238 \\ \underline{-351} \\ -113 \end{array}$ $\begin{array}{r} 742 \\ \underline{-779} \\ -37 \end{array}$ $\begin{array}{r} 682 \\ \underline{-870} \\ -188 \end{array}$ $\begin{array}{r} 807 \\ \underline{-916} \\ -109 \end{array}$

4 > 1 > 3 > 2

6) $\begin{array}{r} 140 \\ \underline{-307} \\ -167 \end{array}$ > $\begin{array}{r} 114 \\ \underline{-280} \\ -166 \end{array}$

7) $\begin{array}{r} 173 \\ \underline{-256} \\ -83 \end{array}$ < $\begin{array}{r} 201 \\ \underline{-297} \\ -96 \end{array}$

8) $\begin{array}{r} 180 \\ \underline{-90} \\ 90 \end{array}$ < $\begin{array}{r} 217 \\ \underline{-107} \\ 110 \end{array}$

9) $\begin{array}{r} 281 \\ \underline{-330} \\ -49 \end{array}$ > $\begin{array}{r} 114 \\ \underline{-146} \\ -32 \end{array}$

10) $\begin{array}{r} 28 \\ \underline{-210} \\ -182 \end{array}$ > $\begin{array}{r} 36 \\ \underline{-279} \\ -243 \end{array}$

11) $\begin{array}{r} 194 \\ \underline{-285} \\ -91 \end{array}$ < $\begin{array}{r} 170 \\ \underline{-226} \\ -56 \end{array}$

12) $\begin{array}{r} 276 \\ \underline{-213} \\ 63 \end{array}$  > $\begin{array}{r} 120 \\ \underline{-92} \\ 28 \end{array}$

13) $\begin{array}{r} 266 \\ \underline{-319} \\ -53 \end{array}$ < $\begin{array}{r} 153 \\ \underline{-180} \\ -27 \end{array}$

14) $\begin{array}{r} 245 \\ \underline{-132} \\ 113 \end{array}$ > $\begin{array}{r} 298 \\ \underline{-170} \\ 128 \end{array}$

15) $\begin{array}{r} 120 \\ \underline{-290} \\ -170 \end{array}$ < $\begin{array}{r} 146 \\ \underline{-319} \\ -173 \end{array}$

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6'00"~	: Need Work
5'30"~6'00"	: Acceptable
5'00"~5'30"	: Average
4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

1)	$\frac{88}{50} > \frac{230}{136} > \frac{144}{89} > \frac{193}{131}$
	1.760 1.691 1.618 1.473

2)	$\frac{267}{218} > \frac{257}{221} > \frac{303}{275} > \frac{314}{320}$
	1.225 1.163 1.102 0.981

3)	$\frac{166}{279} > \frac{183}{321} > \frac{119}{242} > \frac{111}{245}$
	0.595 0.570 0.492 0.453

4)	$\frac{783}{605} > \frac{477}{398} > \frac{801}{702} > \frac{866}{842}$
	1.294 1.198 1.141 1.029

5)	$\frac{742}{779} > \frac{807}{916} > \frac{682}{870} > \frac{238}{351}$
	0.953 0.881 0.784 0.678

6)	$\frac{140}{307} < \frac{114}{280}$
	0.456 0.407
7)	$\frac{173}{256} > \frac{201}{297}$
	0.676 0.677
8)	$\frac{180}{90} > \frac{217}{107}$
	2.000 2.028
9)	$\frac{281}{330} < \frac{114}{146}$
	0.852 0.781
10)	$\frac{28}{210} > \frac{36}{279}$
	0.133 0.129
11)	$\frac{194}{285} < \frac{170}{226}$
	0.681 0.752
12)	$\frac{276}{213} < \frac{120}{92}$
	1.296 1.304
13)	$\frac{266}{319} < \frac{153}{180}$
	0.834 0.850
14)	$\frac{245}{132} > \frac{298}{170}$
	1.856 1.753
15)	$\frac{120}{290} > \frac{146}{319}$
	0.414 0.458

4. 53

~~1)~~

134	157	229	190
235	196	323	291

4 > 1 > 2 > ?

2)

114	250	189	285
111	258	173	241

3 > 4 > 2 > 1

3)

197	183	296	260
165	173	294	296

1 > 2 > 3 > 4

4)

695	987	680	756
613	908	715	630

2 > 3 > 4 > 1

5)

371	318	59	185
798	777	175	508

1 > 2 > 4 > 3

6)

224	170	?	177
-----	-----	---	-----

127 ~~46~~ 58

7)

242	171	?	88
-----	-----	---	----

67

8)

266	195	?	232
-----	-----	---	-----

162

9)

320	233	?	179
-----	-----	---	-----

132

10)

100	60	?	282
-----	----	---	-----

153

11)

259	117	?	91
-----	-----	---	----

37

12)

127	338	?	41 / 23
-----	-----	---	---------

104 23

13)

248	178	?	325
-----	-----	---	-----

252

14)

148	299	?	90
-----	-----	---	----

160

15)

333	311	?	96
-----	-----	---	----

91 ~~23~~

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problems

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4'00"~4'30"	: Excellent
~4'00"	: Superior

1)	$\frac{157}{196} > \frac{229}{323} > \frac{190}{291} > \frac{134}{235}$
	0.801 0.709 0.653 0.570

2)	$\frac{285}{241} > \frac{189}{173} > \frac{114}{111} > \frac{250}{258}$
	1.183 1.092 1.027 0.969

3)	$\frac{197}{165} > \frac{183}{173} > \frac{296}{294} > \frac{260}{296}$
	1.194 1.058 1.007 0.878

4)	$\frac{756}{630} > \frac{695}{613} > \frac{987}{908} > \frac{680}{715}$
	1.200 1.134 1.087 0.951

5)	$\frac{371}{798} > \frac{318}{777} > \frac{185}{508} > \frac{59}{175}$
	0.465 0.409 0.364 0.337

6)	$\frac{224}{170}$	26.55% <- 175.00%	177 127 1.394
	1.318	33.86%	
7)	$\frac{242}{171}$	<- 155.22%	88 67 1.313
	1.415	14.66%	
8)	$\frac{266}{195}$	<- 20.37%	232 162 1.432
	1.364	78.77%	
9)	$\frac{320}{233}$	<- 76.52%	179 132 1.356
	1.373	182.00%	
10)	$\frac{100}{60}$	-> 155.00%	282 153 1.843
	1.667	184.62%	
11)	$\frac{259}{117}$	<- 216.22%	91 37 2.459
	2.214	209.76%	
12)	$\frac{127}{338}$	<- 225.00%	41 104 0.394
	0.376	31.05%	
13)	$\frac{248}{178}$	-> 41.57%	325 252 1.290
	1.393	64.44%	
14)	$\frac{148}{299}$	<- 86.88%	90 160 0.563
	0.495	246.88%	
15)	$\frac{333}{311}$	<- 241.76%	96 91 1.055
	1.071		

4. 15

1)

$$\begin{array}{r} 212 \\ \underline{-325} \\ 168 \\ \underline{-240} \\ 113 \\ \underline{-207} \\ 181 \\ \underline{-306} \end{array}$$

$$\underline{2} > \underline{1} > \underline{4} > \underline{3}$$

~~210~~

2)

$$\begin{array}{r} 196 \\ \underline{-180} \\ 32 \\ \underline{-30} \\ 228 \\ \underline{-204} \\ 124 \\ \underline{-132} \\ 206 \\ \underline{-167} \end{array}$$

$$\underline{3} > \underline{2} > \underline{4} > \underline{1}$$

$$\begin{array}{r} 20 \\ 31 \\ \cancel{298} \\ \underline{-269} \\ 46 \\ 232 \\ \underline{-193} \\ 318 \\ \underline{-235} \\ 339 \\ \underline{-270} \end{array}$$

$$\underline{4} > \underline{3} > \underline{1} > \underline{2}$$

4)

$$\begin{array}{r} 916 \\ \underline{-902} \\ 489 \\ \underline{-553} \\ 607 \\ \underline{-635} \\ 164 \\ \underline{-207} \end{array}$$

$$\underline{1} > \underline{3} > \underline{2} > \underline{4}$$

$$\begin{array}{r} 150 \\ 144 \\ \cancel{5)} \\ \underline{-450} \\ 220 \\ 160 \\ 80 \end{array}$$

$$\begin{array}{r} 598 \\ \underline{-450} \\ 616 \\ \underline{-394} \\ 909 \\ \underline{-745} \\ 252 \\ \underline{-174} \end{array}$$

$$\underline{3} > \underline{1} > \underline{4} > \underline{2}$$

~~150~~

6)

$$\begin{array}{r} 154 \\ \underline{-220} \\ 87 \end{array}$$

7)

$$\begin{array}{r} 63 \\ \underline{-101} \\ 121 \\ \underline{-173} \end{array}$$

8)

$$\begin{array}{r} 137 \\ \underline{-28} \\ 62 \\ \underline{-13} \end{array}$$

9)

$$\begin{array}{r} 304 \\ \underline{-337} \\ 206 \\ \underline{-202} \end{array}$$

10)

$$\begin{array}{r} 224 \\ \underline{-149} \\ 131 \\ \underline{-98} \end{array}$$

11)

$$\begin{array}{r} 224 \\ \underline{-127} \\ 264 \\ \underline{-164} \end{array}$$

12)

$$\begin{array}{r} 316 \\ \underline{-84} \\ 275 \\ \underline{-64} \end{array}$$

13)

$$\begin{array}{r} 141 \\ \underline{-82} \\ 36 \\ \underline{-23} \\ 144 \end{array}$$

14)

$$\begin{array}{r} 93 \\ \cancel{46} \\ 204 \\ \underline{-176} \\ 150 \\ \underline{-317} \end{array}$$

15)

$$\begin{array}{r} 186 \\ \underline{-97} \\ 285 \\ \underline{-138} \end{array}$$

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4'00"~4'30" : Excellent

~4'00" : Superior

19P

1)

$$\frac{168}{240} > \frac{212}{325} > \frac{181}{306} > \frac{113}{207}$$

0.700	0.652	0.592	0.546
-------	-------	-------	-------

2)

$$\frac{206}{167} > \frac{228}{204} > \frac{32}{30} > \frac{124}{132}$$

1.234	1.118	1.067	0.939
-------	-------	-------	-------

3)

$$\frac{318}{235} > \frac{339}{270} > \frac{232}{193} > \frac{298}{269}$$

1.353	1.256	1.202	1.108
-------	-------	-------	-------

4)

$$\frac{916}{902} > \frac{607}{635} > \frac{489}{553} > \frac{164}{207}$$

1.016	0.956	0.884	0.792
-------	-------	-------	-------

5)

$$\frac{616}{394} > \frac{252}{174} > \frac{598}{450} > \frac{909}{745}$$

1.563	1.448	1.329	1.220
-------	-------	-------	-------

6)

154	77.01%	<-	87
220	<-		138
0.700	59.42%		0.630

7)

63	92.06%	->	121
101	->		173
0.624	71.29%		0.699

8)

137	120.97%	<-	62
28	<-		13
4.893	115.38%		4.769

9)

304	47.57%	<-	206
337	<-		202
0.902	66.83%		1.020

10)

224	70.99%	<-	131
149	<-		98
1.503	52.04%		1.337

11)

224	17.86%	->	264
127	->		164
1.764	29.13%		1.610

12)

316	14.91%	<-	275
84	<-		64
3.762	31.25%		4.297

13)

141	291.67%	<-	36
82	<-		23
1.720	256.52%		1.565

14)

93	61.29%	->	150
204	->		317
0.456	55.39%		0.473

15)

186	53.23%	->	285
97	->		138
1.918	42.27%		2.065

4:48

1) $\begin{array}{r} 30 \\ \hline 217 \\ - 186 \\ \hline 31 \end{array}$ $\begin{array}{r} 60 \\ \hline 211 \\ - 151 \\ \hline 60 \end{array}$ $\begin{array}{r} 80 \\ \hline 182 \\ - 175 \\ \hline 7 \end{array}$ $\begin{array}{r} 334 \\ \hline 258 \\ - 258 \\ \hline 0 \end{array}$

$3 > 1 > 4 > 2$

2) $\begin{array}{r} 143 \\ \hline 166 \end{array}$ $\begin{array}{r} 322 \\ \hline 323 \end{array}$ $\begin{array}{r} 143 \\ \hline 194 \end{array}$ $\begin{array}{r} 242 \\ \hline 308 \end{array}$

$2 > 1 > 3 > 4$

3) $\begin{array}{r} 43 \\ \hline 60 \end{array}$ $\begin{array}{r} 110 \\ \hline 137 \end{array}$ $\begin{array}{r} 90 \\ \hline 106 \end{array}$ $\begin{array}{r} 160 \\ \hline 171 \end{array}$

$4 > 3 > 2 > 1$

4) $\begin{array}{r} 526 \\ \hline 957 \end{array}$ $\begin{array}{r} 200 \\ \hline 302 \end{array}$ $\begin{array}{r} 259 \\ \hline 527 \end{array}$ $\begin{array}{r} 482 \\ \hline 757 \end{array}$

$3 > 1 > 4 > 2$

5) $\begin{array}{r} 305 \\ \hline 665 \end{array}$ $\begin{array}{r} 472 \\ \hline 801 \end{array}$ $\begin{array}{r} 258 \\ \hline 498 \end{array}$ $\begin{array}{r} 173 \\ \hline 393 \end{array}$

$3 > 1 > 2 > 4$

6) $\begin{array}{r} 283 \\ \hline 230 \end{array}$ $>$ $\begin{array}{r} 289 \\ \hline 255 \end{array}$

~~7)~~ $\begin{array}{r} 219 \\ \hline 302 \end{array}$ $>$ $\begin{array}{r} 180 \\ \hline 126 \end{array}$

$\frac{26}{252} = 50.4$

8) $\begin{array}{r} 313 \\ \hline 171 \end{array}$ $<$ $\begin{array}{r} 205 \\ \hline 126 \end{array}$

9) $\begin{array}{r} 169 \\ \hline 254 \end{array}$ $<$ $\begin{array}{r} 253 \\ \hline 334 \end{array}$

10) $\begin{array}{r} 137 \\ \hline 147 \end{array}$ $>$ $\begin{array}{r} 266 \\ \hline 304 \end{array}$

11) $\begin{array}{r} 273 \\ \hline 311 \end{array}$ $<$ $\begin{array}{r} 221 \\ \hline 261 \end{array}$

12) $\begin{array}{r} 257 \\ \hline 228 \end{array}$ $<$ $\begin{array}{r} 195 \\ \hline 164 \end{array}$

13) $\begin{array}{r} 332 \\ \hline 250 \end{array}$ $<$ $\begin{array}{r} 308 \\ \hline 211 \end{array}$

14) $\begin{array}{r} 286 \\ \hline 24 \end{array}$ $<$ $\begin{array}{r} 330 \\ \hline 26 \end{array}$

15) $\begin{array}{r} 291 \\ \hline 117 \end{array}$ $<$ $\begin{array}{r} 146 \\ \hline 51 \end{array}$

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4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

1)	$\frac{211}{151} > \frac{334}{258} > \frac{217}{186} > \frac{182}{175}$
	1.397 1.295 1.167 1.040

2)	$\frac{322}{323} > \frac{143}{166} > \frac{242}{308} > \frac{143}{194}$
	0.997 0.861 0.786 0.737

3)	$\frac{160}{171} > \frac{90}{106} > \frac{110}{137} > \frac{43}{60}$
	0.936 0.849 0.803 0.717

4)	$\frac{200}{302} > \frac{482}{757} > \frac{526}{957} > \frac{259}{527}$
	0.662 0.637 0.550 0.491

5)	$\frac{472}{801} > \frac{258}{498} > \frac{305}{665} > \frac{173}{393}$
	0.589 0.518 0.459 0.440

6)	$\frac{283}{230} > \frac{230}{1.230} > \frac{1.230}{143.33\%}$
	289 255 1.133
7)	$\frac{219}{302} < \frac{302}{0.725} < \frac{0.725}{139.68\%}$
	90 126 0.714
8)	$\frac{313}{171} < \frac{171}{1.830} < \frac{1.830}{35.71\%}$
	205 126 1.627
9)	$\frac{169}{254} > \frac{254}{0.665} > \frac{0.665}{31.50\%}$
	253 334 0.757
10)	$\frac{137}{147} > \frac{147}{0.932} > \frac{0.932}{106.80\%}$
	266 304 0.875
11)	$\frac{273}{311} < \frac{311}{0.878} < \frac{0.878}{19.16\%}$
	221 261 0.847
12)	$\frac{257}{228} < \frac{228}{1.127} < \frac{1.127}{39.02\%}$
	195 164 1.189
13)	$\frac{332}{250} < \frac{250}{1.328} < \frac{1.328}{18.48\%}$
	308 211 1.460
14)	$\frac{286}{24} > \frac{24}{11.917} > \frac{11.917}{8.33\%}$
	330 26 12.692
15)	$\frac{291}{117} < \frac{117}{2.487} < \frac{2.487}{129.41\%}$
	146 51 2.863

5:30

~~1)~~

$$\begin{array}{r} 73 \\ \underline{\times 119} \\ 40 \end{array} \quad \begin{array}{r} 69 \\ \underline{\times 101} \\ 30 \end{array} \quad \begin{array}{r} 258 \\ \underline{\times 338} \\ 200 \end{array} \quad \begin{array}{r} 171 \\ \underline{\times 265} \\ 100 \end{array}$$

4 > 2 > 1 > 3

~~2)~~

$$\begin{array}{r} 85 \\ \underline{\times 206} \\ 40 \end{array} \quad \begin{array}{r} 66 \\ \underline{\times 134} \\ 40 \end{array} \quad \begin{array}{r} 47 \\ \underline{\times 104} \\ 30 \end{array} \quad \begin{array}{r} 110 \\ \underline{\times 202} \\ 100 \end{array}$$

4 > 2 > 3 > 1

~~3)~~

$$\begin{array}{r} 168 \\ \underline{\times 198} \\ 100 \end{array} \quad \begin{array}{r} 205 \\ \underline{\times 203} \\ 100 \end{array} \quad \begin{array}{r} 217 \\ \underline{\times 291} \\ 100 \end{array} \quad \begin{array}{r} 282 \\ \underline{\times 319} \\ 100 \end{array}$$

3 > 1 > 4 > 2

~~4)~~

$$\begin{array}{r} 289 \\ \underline{\times 245} \\ 100 \end{array} \quad \begin{array}{r} 789 \\ \underline{\times 826} \\ 100 \end{array} \quad \begin{array}{r} 849 \\ \underline{\times 807} \\ 100 \end{array} \quad \begin{array}{r} 538 \\ \underline{\times 490} \\ 100 \end{array}$$

2 > 4 > 3 > 2

~~5)~~

$$\begin{array}{r} 984 \\ \underline{\times 655} \\ 100 \end{array} \quad \begin{array}{r} 495 \\ \underline{\times 393} \\ 100 \end{array} \quad \begin{array}{r} 649 \\ \underline{\times 461} \\ 100 \end{array} \quad \begin{array}{r} 955 \\ \underline{\times 610} \\ 100 \end{array}$$

2 > 4 > 3 > 1

6)

$$\begin{array}{r} 194 \\ \underline{\times 281} \\ 100 \end{array}$$

116 < 164 114

7)

$$\begin{array}{r} 102 \\ \underline{\times 280} \\ 100 \end{array}$$

102 < 34 84

8)

$$\begin{array}{r} 174 \\ \underline{\times 54} \\ 100 \end{array}$$

174 > 234 78

9)

$$\begin{array}{r} 191 \\ \underline{\times 286} \\ 200 \end{array}$$

191 < 316 230

10)

$$\begin{array}{r} 276 \\ \underline{\times 288} \\ 100 \end{array}$$

276 < 79 73

11)

$$\begin{array}{r} 63 \\ \underline{\times 21} \\ 100 \end{array}$$

63 < 190 58

12)

$$\begin{array}{r} 225 \\ \underline{\times 86} \\ 100 \end{array}$$

225 > 175 70

13)

$$\begin{array}{r} 248 \\ \underline{\times 235} \\ 100 \end{array}$$

248 < 234 207

14)

$$\begin{array}{r} 269 \\ \underline{\times 177} \\ 100 \end{array}$$

269 < 308 198

15)

$$\begin{array}{r} 211 \\ \underline{\times 132} \\ 100 \end{array}$$

211 < 184 99

For each incorrect answer, 15" is added to the time taken to solve problems

6'00"~	: Need Work
5'30"~6'00"	: Acceptable
5'00"~5'30"	: Average
4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

1)	$\frac{258}{338} > \frac{69}{101} > \frac{171}{265} > \frac{73}{119}$
	0.763 0.683 0.645 0.613

2)	$\frac{110}{202} > \frac{66}{134} > \frac{47}{104} > \frac{85}{206}$
	0.545 0.493 0.452 0.413

3)	$\frac{205}{203} > \frac{282}{319} > \frac{168}{198} > \frac{217}{291}$
	1.010 0.884 0.848 0.746

4)	$\frac{289}{245} > \frac{538}{490} > \frac{849}{807} > \frac{789}{826}$
	1.180 1.098 1.052 0.955

5)	$\frac{955}{610} > \frac{984}{655} > \frac{649}{461} > \frac{495}{393}$
	1.566 1.502 1.408 1.260

6)	$\frac{194}{281}$	67.24% <- 0.690 71.34%	116 164 0.707
7)	$\frac{102}{280}$	200.00% <- 0.364 233.33%	34 84 0.405
8)	$\frac{174}{54}$	34.48% -> 3.222 44.44%	234 78 3.000
9)	$\frac{191}{140}$	65.45% -> 1.364 64.29%	316 230 1.374
10)	$\frac{276}{288}$	249.37% <- 0.958 294.52%	79 73 1.082
11)	$\frac{63}{21}$	201.59% -> 3.000 176.19%	190 58 3.276
12)	$\frac{225}{86}$	28.57% -> 2.616 22.86%	175 70 2.500
13)	$\frac{248}{235}$	5.98% -> 1.055 13.53%	234 207 1.130
14)	$\frac{269}{177}$	14.50% -> 1.520 11.86%	308 198 1.556
15)	$\frac{211}{132}$	14.67% -> 1.598 33.33%	184 99 1.859

3:50

1)

143	281	245	269
194	<u>278</u>	<u>279</u>	<u>331</u>

~~4~~ > ~~1~~ > ~~2~~ > ~~3~~

6)

54	122
108 216	228

7)

216	203
157	135

2)

106	59	62	90
307	<u>218</u>	<u>216</u>	<u>274</u>

~~1~~ > ~~4~~ > ~~3~~ > ~~2~~

8)

187	73
292	115

9)

64	80
196	268

3)

294	195	319	87
129	97	177	54

~~1~~ > ~~2~~ > ~~3~~ > ~~4~~

10)

200	77
326	117

11)

150	304
100	207

4)

814	533	737	884
800	712	897	945

~~1~~ > ~~4~~ > ~~3~~ > ~~2~~

12)

253	149
332	214

13)

250	214
311	262

14)

84	137
171	240

15)

316	334
124	144

5)

641	134	585	789
795	181	647	800

~~4~~ > ~~3~~ > ~~2~~ > ~~1~~
~~7~~ > ~~b~~ > ~~2~~ > ~~1~~

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4'00"~4'30"	: Excellent
~4'00"	: Superior

1)

$$\frac{281}{278} > \frac{245}{279} > \frac{269}{331} > \frac{143}{194}$$

1.011	0.878	0.813	0.737
-------	-------	-------	-------

2)

$$\frac{106}{307} > \frac{90}{274} > \frac{62}{216} > \frac{59}{218}$$

0.345	0.328	0.287	0.271
-------	-------	-------	-------

3)

$$\frac{294}{129} > \frac{195}{97} > \frac{319}{177} > \frac{87}{54}$$

2.279	2.010	1.802	1.611
-------	-------	-------	-------

4)

$$\frac{814}{800} > \frac{884}{945} > \frac{737}{897} > \frac{533}{712}$$

1.018	0.935	0.822	0.749
-------	-------	-------	-------

5)

$$\frac{789}{800} > \frac{585}{647} > \frac{641}{795} > \frac{134}{181}$$

0.986	0.904	0.806	0.740
-------	-------	-------	-------

6)

$$\frac{54}{108}$$

0.500

125.93%	->	122
111.11%	->	228

0.535

7)

$$\frac{216}{157}$$

1.376

6.40%	<-	203
16.30%	<-	135

1.504

8)

$$\frac{187}{292}$$

0.640

156.16%	<-	73
153.91%	<-	115

0.635

9)

$$\frac{64}{196}$$

0.327

25.00%	->	80
36.73%	->	268

0.299

10)

$$\frac{200}{326}$$

0.613

159.74%	<-	77
178.63%	<-	117

0.658

11)

$$\frac{150}{100}$$

1.500

102.67%	->	304
107.00%	->	207

1.469

12)

$$\frac{253}{332}$$

0.762

69.80%	<-	149
55.14%	<-	214

0.696

13)

$$\frac{250}{311}$$

0.804

16.82%	<-	214
18.70%	<-	262

0.817

14)

$$\frac{84}{171}$$

0.491

63.10%	->	137
40.35%	->	240

0.571

15)

$$\frac{316}{124}$$

2.548

5.70%	->	334
16.13%	->	144

2.319

1)

$$\begin{array}{r} 76 \\ 88 \\ \hline 151 \\ 141 \\ \hline 198 \\ 253 \\ \hline 139 \\ 146 \\ \hline \end{array}$$

3 > 1 > 4 > 2

$$\begin{array}{r} 6150 \\ 183 \\ \hline 75 \\ 94 \\ \hline \end{array}$$

> 143
183

2)

$$\begin{array}{r} 284 \\ 120 \\ \hline 246 \\ 115 \\ \hline 335 \\ 170 \\ \hline 238 \\ 129 \\ \hline \end{array}$$

1 > 2 > 3 > 4

8) < 155
152 76
69

3)

$$\begin{array}{r} 260 \\ 125 \\ \hline 267 \\ 116 \\ \hline 304 \\ 177 \\ \hline 305 \\ 162 \\ \hline \end{array}$$

2 > 1 > 4 > 3

9) > 251
164 223
161

4)

$$\begin{array}{r} 434 \\ 405 \\ \hline 871 \\ 754 \\ \hline 914 \\ 945 \\ \hline 490 \\ 404 \\ \hline \end{array}$$

3 > 2 > 4 > 1

11) > 87
147
127
220

5)

$$\begin{array}{r} 251 \\ 869 \\ \hline 231 \\ 913 \\ \hline 271 \\ 894 \\ \hline 150 \\ 431 \\ \hline \end{array}$$

7 > 4 > 2 > 1

12) < 163
248 88
131 196
262

13) > 134
100 244
198

14) > 332
199 280
168
184

15) > 102
124 219
295

For each incorrect answer, 15" is added to the time taken to solve problems

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5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior



1)	$\frac{151}{141} > \frac{139}{146} > \frac{76}{88} > \frac{198}{253}$
1.071	0.952

2)	$\frac{284}{120} > \frac{246}{115} > \frac{335}{170} > \frac{238}{129}$
2.367	2.139

3)	$\frac{267}{116} > \frac{260}{125} > \frac{305}{162} > \frac{304}{177}$
2.302	2.080

4)	$\frac{490}{404} > \frac{871}{754} > \frac{434}{405} > \frac{914}{945}$
1.213	1.155

5)	$\frac{150}{431} > \frac{271}{894} > \frac{251}{869} > \frac{231}{913}$
0.348	0.303

6)	$\frac{75}{94} > \frac{0.798}{0.798}$
143	183
0.781	0.781
15.54%	15.54%
7)	$\frac{223}{224} < \frac{0.996}{0.996}$
193	216
0.894	0.894
3.70%	3.70%
8)	$\frac{155}{152} < \frac{1.020}{1.020}$
76	69
1.101	1.101
103.95%	103.95%
9)	$\frac{251}{164} < \frac{1.530}{1.530}$
223	161
1.385	1.385
12.56%	12.56%
10)	$\frac{214}{271} < \frac{0.790}{0.790}$
157	175
0.897	0.897
36.31%	36.31%
11)	$\frac{87}{147} < \frac{0.592}{0.592}$
127	220
0.577	0.577
45.98%	45.98%
12)	$\frac{163}{248} < \frac{0.657}{0.657}$
88	131
0.672	0.672
85.23%	85.23%
13)	$\frac{134}{100} < \frac{1.340}{1.340}$
244	198
1.232	1.232
82.09%	82.09%
14)	$\frac{332}{199} < \frac{1.668}{1.668}$
280	168
1.667	1.667
18.57%	18.57%
15)	$\frac{102}{124} < \frac{0.823}{0.823}$
219	295
0.742	0.742
114.71%	114.71%
137.90%	137.90%

4, 16

1)

$$\begin{array}{r} 162 \\ 321 \\ \hline 143 \\ 257 \\ \hline 75 \\ 118 \\ \hline 227 \\ 331 \\ \hline \end{array}$$

4 > ? > 2 > 1

2)

$$\begin{array}{r} 279 \\ 254 \\ \hline 325 \\ 272 \\ \hline 177 \\ 204 \\ \hline 296 \\ 311 \\ \hline \end{array}$$

2 > 1 > 4 > 3

3)

$$\begin{array}{r} 336 \\ 231 \\ \hline 260 \\ 200 \\ \hline 140 \\ 117 \\ \hline 234 \\ 217 \\ \hline \end{array}$$

1 > 2 > 3 > 4

4)

$$\begin{array}{r} 533 \\ 778 \\ \hline 468 \\ 555 \\ \hline 529 \\ 832 \\ \hline 428 \\ 557 \\ \hline \end{array}$$

3 > 1 > 4 > 2

5)

$$\begin{array}{r} 424 \\ 539 \\ \hline 412 \\ 571 \\ \hline 449 \\ 684 \\ \hline 554 \\ 637 \\ \hline \end{array}$$

2 > 3 > 4 > 1

6)

$$\begin{array}{r} 130 \\ 332 \\ \hline 48 \\ 116 \\ \hline 144 \\ 48 \\ \hline \end{array}$$

7)

$$\begin{array}{r} 279 \\ 314 \\ \hline 234 \\ 240 \\ \hline \end{array}$$

8)

$$\begin{array}{r} 124 \\ 110 \\ \hline 272 \\ 265 \\ \hline \end{array}$$

9)

$$\begin{array}{r} 200 \\ 300 \\ \hline 113 \\ 175 \\ \hline 58 \\ 116 \\ \hline \end{array}$$

10)

$$\begin{array}{r} 127 \\ 290 \\ \hline 160 \\ 321 \\ \hline \end{array}$$

11)

$$\begin{array}{r} 158 \\ 104 \\ \hline 168 \\ 117 \\ \hline \end{array}$$

12)

$$\begin{array}{r} 333 \\ 187 \\ \hline 170 \\ 102 \\ \hline \end{array}$$

13)

$$\begin{array}{r} 142 \\ 126 \\ \hline 13 \\ 11 \\ \hline \end{array}$$

14)

$$\begin{array}{r} 240 \\ 224 \\ \hline 287 \\ 237 \\ \hline \end{array}$$

15)

$$\begin{array}{r} 190 \\ 173 \\ \hline 294 \\ 235 \\ \hline \end{array}$$

For each incorrect answer,
15" is added
to the time
taken to solve
problems

6'00"~ : Need Work

5'30"~6'00" : Acceptable

5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{227}{331} > \frac{75}{118} > \frac{143}{257} > \frac{162}{321}$
0.686	0.636

2)	$\frac{325}{272} > \frac{279}{254} > \frac{296}{311} > \frac{177}{204}$
1.195	1.098

3)	$\frac{336}{231} > \frac{26}{20} > \frac{140}{117} > \frac{234}{217}$
1.455	1.300

4)	$\frac{468}{555} > \frac{428}{557} > \frac{533}{778} > \frac{529}{832}$
0.843	0.768

5)	$\frac{554}{637} > \frac{424}{539} > \frac{412}{571} > \frac{449}{684}$
0.870	0.787

6)	$\frac{130}{332}$	170.83%	48
	0.392	<-	116
		186.21%	0.414
7)	$\frac{279}{314}$	19.23%	234
	0.889	<-	240
		30.83%	0.975
8)	$\frac{124}{110}$	119.35%	272
	1.127	->	265
		140.91%	1.026
9)	$\frac{200}{300}$	76.99%	113
	0.667	<-	175
		71.43%	0.646
10)	$\frac{127}{290}$	25.98%	160
	0.438	->	321
		10.69%	0.498
11)	$\frac{158}{104}$	6.33%	168
	1.519	->	117
		12.50%	1.436
12)	$\frac{333}{187}$	95.88%	170
	1.781	<-	102
		83.33%	1.667
13)	$\frac{142}{126}$	992.31%	13
	1.127	<-	11
		####	1.182
14)	$\frac{240}{224}$	19.58%	287
	1.071	->	237
		5.80%	1.211
15)	$\frac{190}{173}$	54.74%	294
	1.098	->	235
		35.84%	1.251

1)

$$\begin{array}{r} 179 \\ 156 \\ \hline 229 \\ 145 \\ \hline 222 \\ 162 \\ \hline 227 \\ 188 \\ \hline \end{array}$$

4 > 1 > 2 > 3

2)

$$\begin{array}{r} 340 \\ 336 \\ \hline 196 \\ 221 \\ \hline 226 \\ 285 \\ \hline 282 \\ 242 \\ \hline \end{array}$$

2 > 3 > 4 > 1

3)

$$\begin{array}{r} 123 \\ 73 \\ \hline 237 \\ 180 \\ \hline 271 \\ 219 \\ \hline 106 \\ 71 \\ \hline \end{array}$$

_____ > _____ > _____ > _____

4)

$$\begin{array}{r} 887 \\ 846 \\ \hline 835 \\ 718 \\ \hline 215 \\ 258 \\ \hline 754 \\ 796 \\ \hline \end{array}$$

2 > 1 > 4 > 3

5)

$$\begin{array}{r} 231 \\ 304 \\ \hline 584 \\ 658 \\ \hline 359 \\ 435 \\ \hline 879 \\ 929 \\ \hline \end{array}$$

4 > 2 > 7 > 1

6)

$$\begin{array}{r} 307 \\ 273 \\ \hline \end{array}$$

< 305
266

7)

$$\begin{array}{r} 187 \\ 196 \\ \hline \end{array}$$

< 267
269

8)

$$\begin{array}{r} 156 \\ 206 \\ \hline \end{array}$$

< 156
185

9)

$$\begin{array}{r} 121 \\ 173 \\ \hline \end{array}$$

< 170
232

10)

$$\begin{array}{r} 67 \\ 226 \\ \hline \end{array}$$

> 88
327

11)

$$\begin{array}{r} 21 \\ 55 \\ \hline \end{array}$$

> 110
321

12)

$$\begin{array}{r} 251 \\ 291 \\ \hline \end{array}$$

< 200
233
5 2. ~ 250

13)

$$\begin{array}{r} 33 \\ 53 \\ \hline \end{array}$$

< 99
151

14)

$$\begin{array}{r} 264 \\ 339 \\ \hline \end{array}$$

> 138
179

15)

$$\begin{array}{r} 170 \\ 55 \\ \hline \end{array}$$

> 103
34
171

15
51

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4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

1)	$\frac{229}{145} > \frac{222}{162} > \frac{227}{188} > \frac{179}{156}$
	1.579 1.370 1.207 1.147

2)	$\frac{282}{242} > \frac{340}{336} > \frac{196}{221} > \frac{226}{285}$
	1.165 1.012 0.887 0.793

3)	$\frac{123}{73} > \frac{106}{71} > \frac{237}{180} > \frac{271}{219}$
	1.685 1.493 1.317 1.237

4)	$\frac{835}{718} > \frac{887}{846} > \frac{754}{796} > \frac{215}{258}$
	1.163 1.048 0.947 0.833

5)	$\frac{879}{929} > \frac{584}{658} > \frac{359}{435} > \frac{231}{304}$
	0.946 0.888 0.825 0.760

6)	$\frac{307}{273}$	0.66%	305
	1.125	<-	266
		2.63%	1.147
		42.78%	
7)	$\frac{187}{196}$	->	267
	0.954	->	269
		37.24%	0.993
		0.00%	
8)	$\frac{156}{206}$	->	156
	0.757	<-	185
		11.35%	0.843
		40.50%	
9)	$\frac{121}{173}$	->	170
	0.699	->	232
		34.10%	0.733
		31.34%	
10)	$\frac{67}{226}$	->	88
	0.296	->	327
		44.69%	0.269
		423.81%	
11)	$\frac{21}{55}$	->	110
	0.382	->	321
		483.64%	0.343
		25.50%	
12)	$\frac{251}{291}$	<-	200
	0.863	<-	233
		24.89%	0.858
		200.00%	
13)	$\frac{33}{53}$	->	99
	0.623	->	151
		184.91%	0.656
		91.30%	
14)	$\frac{264}{339}$	<-	138
	0.779	<-	179
		89.39%	0.771
		65.05%	
15)	$\frac{170}{55}$	<-	103
	3.091	<-	34
		61.76%	3.029

1)

$$\begin{array}{r} 341 \\ 215 \\ \hline 332 \\ 245 \\ \hline 275 \\ 186 \\ \hline 184 \\ 148 \\ \hline \end{array}$$

$$\underline{1} > \underline{3} > \underline{2} > \underline{4}$$

2)

$$\begin{array}{r} 89 \\ 104 \\ \hline 106 \\ 102 \\ \hline 336 \\ 283 \\ \hline 219 \\ 225 \\ \hline \end{array}$$

$$\underline{4} > \underline{2} > \underline{1} > \underline{3}$$

3)

$$\begin{array}{r} 317 \\ 325 \\ \hline 220 \\ 258 \\ \hline 199 \\ 192 \\ \hline 165 \\ 205 \\ \hline \end{array}$$

$$\underline{2} > \underline{3} > \underline{1} > \underline{4}$$

4)

$$\begin{array}{r} 43 \\ 52 \\ \hline 569 \\ 790 \\ \hline 443 \\ 476 \\ \hline 614 \\ 911 \\ \hline \end{array}$$

$$\underline{2} > \underline{3} > \underline{1} > \underline{4}$$

5)

$$\begin{array}{r} 897 \\ 932 \\ \hline 971 \\ 857 \\ \hline 880 \\ 710 \\ \hline 717 \\ 661 \\ \hline \end{array}$$

$$\underline{4} > \underline{2} > \underline{1} > \underline{3}$$

43

$$\begin{array}{r} 130 \\ 49 \\ \hline \end{array}$$

X

$$\begin{array}{r} 161 \\ 62 \\ \hline \end{array}$$

503...

$$\begin{array}{r} 177 \\ 56 \\ \hline \end{array} > \begin{array}{r} 114 \\ 39 \\ \hline \end{array}$$

$$\begin{array}{r} 330 \\ 254 \\ \hline \end{array} < \begin{array}{r} 300 \\ 221 \\ \hline \end{array}$$

$$\begin{array}{r} 115 \\ 122 \\ \hline \end{array} > \begin{array}{r} 194 \\ 209 \\ \hline \end{array}$$

$$\begin{array}{r} 153 \\ 203 \\ \hline \end{array} < \begin{array}{r} 205 \\ 253 \\ \hline \end{array}$$

$$\begin{array}{r} 237 \\ 186 \\ \hline \end{array} > \begin{array}{r} 299 \\ 251 \\ \hline \end{array}$$

$$\begin{array}{r} 155 \\ \frac{2}{7} \cancel{10} \\ \frac{1}{7} \cancel{1} \\ 86 \\ \hline \end{array} < \begin{array}{r} 298 \\ 158 \\ \hline \end{array}$$

$$\begin{array}{r} 288 \\ 131 \\ \hline \end{array} < \begin{array}{r} 254 \\ 104 \\ \hline \end{array}$$

$$\begin{array}{r} 305 \\ 206 \\ \hline \end{array} < \begin{array}{r} 233 \\ \frac{2}{13} \cancel{9} \\ \frac{1}{13} \cancel{9} \\ 417 \\ \hline \end{array} 417$$

$$\begin{array}{r} 142 \\ 333 \\ \hline \end{array} > \begin{array}{r} 103 \\ 273 \\ \hline \end{array}$$

For each incorrect answer,
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to the time
taken to solve
problems

6'00"~	: Need Work
5'30"~6'00"	: Acceptable
5'00"~5'30"	: Average
4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

1)	$\frac{341}{215} > \frac{275}{186} > \frac{332}{245} > \frac{184}{148}$
	1.586 1.478 1.355 1.243

2)	$\frac{336}{283} > \frac{106}{102} > \frac{219}{225} > \frac{89}{104}$
	1.187 1.039 0.973 0.856

3)	$\frac{199}{192} > \frac{317}{325} > \frac{220}{258} > \frac{165}{205}$
	1.036 0.975 0.853 0.805

4)	$\frac{443}{476} > \frac{43}{52} > \frac{569}{790} > \frac{614}{911}$
	0.931 0.827 0.720 0.674

5)	$\frac{880}{710} > \frac{971}{857} > \frac{717}{661} > \frac{897}{932}$
	1.239 1.133 1.085 0.962

6)	$\frac{130}{49} > \frac{2.653}{2.653}$
	23.85% -> 161 62
7)	$\frac{177}{56} < \frac{3.161}{3.161}$
	26.53% -> 114 39
8)	$\frac{330}{254} < \frac{1.299}{1.299}$
	55.26% -< 300 221
9)	$\frac{115}{122} > \frac{0.943}{0.943}$
	10.00% -< 300 221
10)	$\frac{153}{203} > \frac{0.754}{0.754}$
	14.93% -> 194 209
11)	$\frac{237}{186} > \frac{1.274}{1.274}$
	68.70% -> 205 253
12)	$\frac{155}{86} > \frac{1.802}{1.802}$
	33.99% -> 205 253
13)	$\frac{288}{131} < \frac{2.198}{2.198}$
	24.63% -> 298 158
14)	$\frac{305}{206} < \frac{1.481}{1.481}$
	26.16% -> 298 158
15)	$\frac{142}{333} < \frac{0.426}{0.426}$
	92.26% -> 254 104
	34.95% -> 298 158
	13.39% -< 254 104
	83.72% -> 298 158
	30.90% -< 254 104
	48.20% -< 233 139
	37.86% -< 233 139
	21.98% -< 103 273



1)

$$\begin{array}{r} 138 \\ 133 \end{array} \quad \begin{array}{r} 202 \\ 145 \end{array} \quad \begin{array}{r} 260 \\ 227 \end{array} \quad \begin{array}{r} 284 \\ 215 \end{array}$$

$$\underline{4} > \underline{1} > \underline{3} > \underline{2}$$

2)

$$\begin{array}{r} 71 \\ 71 \end{array} \quad \begin{array}{r} 171 \\ 213 \end{array} \quad \begin{array}{r} 121 \\ 111 \end{array} \quad \begin{array}{r} 229 \\ 254 \end{array}$$

$$\underline{2} > \underline{4} > \underline{1} > \underline{3}$$

3)

$$\begin{array}{r} 339 \\ 244 \end{array} \quad \begin{array}{r} 254 \\ 198 \end{array} \quad \begin{array}{r} 340 \\ 310 \end{array} \quad \begin{array}{r} 275 \\ 230 \end{array}$$

$$\underline{1} > \underline{2} > \underline{4} > \underline{3}$$

4)

~~$$\begin{array}{r} 187 \\ 115 \end{array} \quad \begin{array}{r} 137 \\ 92 \end{array} \quad \begin{array}{r} 851 \\ 600 \end{array} \quad \begin{array}{r} 406 \\ 301 \end{array}$$~~

~~$$\underline{1} > \underline{4} > \underline{2} > \underline{6}$$~~

5)

$$\begin{array}{r} 663 \\ 455 \end{array} \quad \begin{array}{r} 740 \\ 347 \end{array} \quad \begin{array}{r} 826 \\ 433 \end{array} \quad \begin{array}{r} 643 \\ 386 \end{array}$$

$$\underline{4} > \underline{1} > \underline{2} > \underline{3}$$

6)

$$\begin{array}{r} 152 \\ 203 \end{array} \quad \boxed{<} \quad \begin{array}{r} 43 \\ 54 \end{array} \quad \begin{array}{r} 172 \\ 26 \end{array}$$

7)

$$\begin{array}{r} 268 \\ 196 \end{array} \quad \boxed{>} \quad \begin{array}{r} 288 \\ 232 \end{array}$$

8)

$$\begin{array}{r} 310 \\ 340 \end{array} \quad \boxed{<} \quad \begin{array}{r} 214 \\ 209 \end{array}$$

9)

$$\begin{array}{r} 156 \\ 219 \end{array} \quad \boxed{<} \quad \begin{array}{r} 250 \\ 338 \end{array}$$

10)

$$\begin{array}{r} 61 \\ 101 \end{array} \quad \boxed{<} \quad \begin{array}{r} 221 \\ 319 \end{array}$$

11)

$$\begin{array}{r} 219 \\ 251 \end{array} \quad \boxed{<} \quad \begin{array}{r} 66 \\ 70 \end{array} \quad \begin{array}{r} 108 \\ 240 \end{array}$$

12)

$$\begin{array}{r} 150 \\ 338 \end{array} \quad \boxed{<} \quad \begin{array}{r} 168 \\ 341 \end{array}$$

13)

$$\begin{array}{r} 36 \\ 23 \end{array} \quad \boxed{<} \quad \begin{array}{r} 255 \\ 152 \end{array}$$

14)

$$\begin{array}{r} 283 \\ 132 \end{array} \quad \boxed{>} \quad \begin{array}{r} 120 \\ 62 \end{array}$$

15)

$$\begin{array}{r} 133 \\ 80 \end{array} \quad \boxed{>} \quad \begin{array}{r} 200 \\ 137 \end{array}$$

For each incorrect answer, 15" is added to the time taken to solve problems

6'00"~ : Need Work

5'30"~6'00" : Acceptable

5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)

$$\frac{202}{145} > \frac{284}{215} > \frac{260}{227} > \frac{138}{133}$$

1.393

1.321

1.145

1.038

2)

$$\frac{121}{111} > \frac{71}{71} > \frac{229}{254} > \frac{171}{213}$$

1.090

1.000

0.902

0.803

3)

$$\frac{339}{244} > \frac{254}{198} > \frac{275}{230} > \frac{340}{310}$$

1.389

1.283

1.196

1.097

4)

$$\frac{187}{115} > \frac{137}{92} > \frac{851}{600} > \frac{406}{301}$$

1.626

1.489

1.418

1.349

5)

$$\frac{740}{347} > \frac{826}{433} > \frac{643}{386} > \frac{663}{455}$$

2.133

1.908

1.666

1.457

6)

152

203

0.749

253.49%

<-

43

54

0.796

7)

268

196

1.367

275.93%

7.46%

288

232

1.241

8)

310

340

0.912

44.86%

<-

214

209

1.024

9)

156

219

0.712

62.68%

<-

250

338

0.740

10)

61

101

0.604

262.30%

<-

221

319

0.693

11)

219

251

0.873

231.82%

<-

66

70

0.943

12)

150

338

0.444

12.00%

<-

168

341

0.493

13)

36

23

1.565

608.33%

<-

255

152

1.678

14)

283

132

2.144

135.83%

<-

120

62

1.935

15)

133

80

1.663

50.38%

<-

200

137

1.460

1)

$$\begin{array}{r} 206 \\ 122 \\ \hline 110 \end{array} \quad \begin{array}{r} 245 \\ 162 \\ \hline 83 \end{array} \quad \begin{array}{r} 264 \\ 214 \\ \hline \end{array}$$

1 > 3 > 2 > 4

6)

$$\begin{array}{r} 278 \\ 306 \\ \hline \end{array} > \begin{array}{r} 287 \\ 325 \\ \hline \end{array}$$

7)

$$\begin{array}{r} 159 \\ 225 \\ \hline \end{array} < \begin{array}{r} 95 \\ 124 \\ \hline \end{array}$$

2)

$$\begin{array}{r} 186 \\ 160 \\ \hline 227 \end{array} \quad \begin{array}{r} 281 \\ 327 \\ \hline 207 \end{array} \quad \begin{array}{r} 115 \\ 121 \\ \hline \end{array}$$

1 > 2 > 4 > 3

8)

$$\begin{array}{r} 169 \\ 73 \\ \hline \end{array} > \begin{array}{r} 333 \\ 151 \\ \hline \end{array}$$

9)

$$\begin{array}{r} 98 \\ 148 \\ \hline \end{array} > \begin{array}{r} 192 \\ 322 \\ \hline \end{array}$$

3)

$$\begin{array}{r} 232 \\ 326 \\ \hline 148 \end{array} \quad \begin{array}{r} 113 \\ 177 \\ \hline 188 \end{array} \quad \begin{array}{r} 194 \\ 332 \\ \hline \end{array}$$

2 > 1 > 3 > 4

10)

$$\begin{array}{r} 88 \\ 245 \\ \hline \end{array} > \begin{array}{r} 116 \\ 323 \\ \hline \end{array}$$

11)

$$\begin{array}{r} 26 \\ 62 \\ \hline \end{array} > \begin{array}{r} 29 \\ 78 \\ \hline \end{array}$$

4)

$$\begin{array}{r} 799 \\ 914 \\ \hline 476 \end{array} \quad \begin{array}{r} 947 \\ 917 \\ \hline 515 \end{array} \quad \begin{array}{r} 361 \\ 436 \\ \hline \end{array}$$

3 > 2 > 1 > 4

12)

$$\begin{array}{r} 221 \\ 222 \\ \hline \end{array} < \begin{array}{r} 309 \\ 286 \\ \hline \end{array}$$

5)

$$\begin{array}{r} 625 \\ 705 \\ \hline 328 \end{array} \quad \begin{array}{r} 473 \\ 555 \\ \hline 321 \end{array} \quad \begin{array}{r} 857 \\ 725 \\ \hline \end{array}$$

3 > 2 > 4 > 1

13)

$$\begin{array}{r} 132 \\ 103 \\ \hline \end{array} > \begin{array}{r} 238 \\ 199 \\ \hline \end{array}$$

14)

$$\begin{array}{r} 131 \\ 184 \\ \hline \end{array} > \begin{array}{r} 177 \\ 257 \\ \hline \end{array}$$

15)

$$\begin{array}{r} 255 \\ 211 \\ \hline \end{array} < \begin{array}{r} 322 \\ 230 \\ \hline \end{array}$$

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5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{206}{122} > \frac{245}{162} > \frac{110}{83} > \frac{264}{214}$
	1.689 1.512 1.325 1.234

2)	$\frac{186}{160} > \frac{227}{207} > \frac{115}{121} > \frac{281}{327}$
	1.163 1.097 0.950 0.859

3)	$\frac{148}{188} > \frac{232}{326} > \frac{113}{177} > \frac{194}{332}$
	0.787 0.712 0.638 0.584

4)	$\frac{947}{917} > \frac{476}{515} > \frac{799}{914} > \frac{361}{436}$
	1.033 0.924 0.874 0.828

5)	$\frac{857}{725} > \frac{328}{321} > \frac{625}{705} > \frac{473}{555}$
	1.182 1.022 0.887 0.852

6)	$\frac{278}{306} > \frac{325}{0.908}$
	3.24% -> 287 325
	6.21% -> 0.883
7)	$\frac{159}{225} < \frac{95}{0.707}$
	67.37% <- 124 0.766
8)	$\frac{169}{73} > \frac{333}{2.315}$
	97.04% -> 151 2.205
9)	$\frac{98}{148} > \frac{192}{0.662}$
	106.85% -> 322 0.596
10)	$\frac{88}{245} > \frac{116}{0.359}$
	95.92% -> 323 0.359
11)	$\frac{26}{62} > \frac{29}{0.419}$
	31.82% -> 78 0.372
12)	$\frac{221}{222} > \frac{309}{0.995}$
	31.84% -> 286 1.080
13)	$\frac{132}{103} > \frac{199}{1.282}$
	11.54% -> 238 1.196
14)	$\frac{131}{184} > \frac{177}{0.712}$
	39.82% -> 257 0.689
15)	$\frac{255}{211} > \frac{322}{1.209}$
	80.30% -> 230 1.400
	93.20% -> 1.196
	35.11% -> 177
	39.67% -> 257
	26.27% -> 322
	9.00% -> 230

3:3)

1) $\begin{array}{r} 227 \\ \underline{- 200} \\ 253 \end{array}$ $\begin{array}{r} 170 \\ \underline{- 200} \\ 172 \end{array}$ $\begin{array}{r} 299 \\ \underline{- 327} \\ 327 \end{array}$

1 > 4 > 2 > 3

2) $\begin{array}{r} 190 \\ \underline{- 125} \\ 148 \end{array}$ $\begin{array}{r} 192 \\ \underline{- 114} \\ 118 \end{array}$ $\begin{array}{r} 277 \\ \underline{- 153} \\ 153 \end{array}$

4 > 1 > 3 > 2

3) $\begin{array}{r} 100 \\ \underline{- 118} \\ 171 \end{array}$ $\begin{array}{r} 278 \\ \underline{- 299} \\ 227 \end{array}$

7 > 1 > 2 > 4

4) $\begin{array}{r} 222 \\ \underline{- 164} \\ 516 \end{array}$ $\begin{array}{r} 804 \\ \underline{- 479} \\ 435 \end{array}$

3 > 6 > 1 > 2

5) $\begin{array}{r} 833 \\ \underline{- 862} \\ 731 \end{array}$ $\begin{array}{r} 754 \\ \underline{- 639} \\ 59 \end{array}$

4 > 3 > 1 > 2

6) $\begin{array}{r} 236 \\ \underline{- 69} \\ 167 \end{array}$

< < 335 / 89

7) $\begin{array}{r} 204 \\ \underline{- 301} \\ 197 \end{array}$

> > 67 / 109 ≈ 24

8) $\begin{array}{r} 155 \\ \underline{- 247} \\ 92 \end{array}$

> > 175 / 287

9) $\begin{array}{r} 119 \\ \underline{- 338} \\ 219 \end{array}$

< < 30 / 82

10) $\begin{array}{r} 130 \\ \underline{- 117} \\ 13 \end{array}$

> > 169 / 157

11) $\begin{array}{r} 58 \\ \underline{- 257} \\ 199 \end{array}$

< < 67 / 258

12) $\begin{array}{r} 65 \\ \underline{- 305} \\ 240 \end{array}$

> > 50 / 265

13) $\begin{array}{r} 233 \\ \underline{- 213} \\ 20 \end{array}$

< < 168 / 135

14) $\begin{array}{r} 186 \\ \underline{- 303} \\ 117 \end{array}$

> > 141 / 235

15) $\begin{array}{r} 314 \\ \underline{- 265} \\ 49 \end{array}$

> > 205 / 188

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taken to solve
problems

6'00"~	: Need Work
5'30"~6'00"	: Acceptable
5'00"~5'30"	: Average
4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

1)	$\frac{227}{200} > \frac{170}{172} > \frac{299}{327} > \frac{200}{253}$
1.135	0.988

2)	$\frac{148}{77} > \frac{277}{153} > \frac{192}{114} > \frac{190}{125}$
1.922	1.810

3)	$\frac{171}{166} > \frac{278}{299} > \frac{100}{118} > \frac{227}{287}$
1.030	0.930

4)	$\frac{804}{479} > \frac{516}{356} > \frac{222}{164} > \frac{566}{435}$
1.678	1.449

5)	$\frac{754}{639} > \frac{59}{53} > \frac{731}{702} > \frac{833}{862}$
1.180	1.113

6)	$\frac{236}{69}$	41.95% -> ->	335 89 3.764
	3.420	28.99%	
7)	204 301 0.678	204.48% <- <- 176.15%	67 109 0.615
8)	155 247 0.628	12.90% -> -> 16.19%	175 287 0.610
9)	119 338 0.352	296.67% <- <- 312.20%	30 82 0.366
10)	130 117 1.111	30.00% -> -> 34.19%	169 157 1.076
11)	58 257 0.226	15.52% -> -> 0.39%	67 258 0.260
12)	65 305 0.213	30.00% <- <- 15.09%	50 265 0.189
13)	233 213 1.094	38.69% <- <- 57.78%	168 135 1.244
14)	186 303 0.614	31.91% <- <- 28.94%	141 235 0.600
15)	314 265 1.185	53.17% <- <- 40.96%	205 188 1.090

1)

73	69	258	171
119	101	338	265
<hr/> > <hr/> > <hr/> > <hr/>			

6)

247		255
275		299
<hr/> > <hr/> > <hr/>		

2)

85	66	47	110
206	134	104	202
<hr/> > <hr/> > <hr/> > <hr/>			

8)

153		179
234		290
<hr/> > <hr/> > <hr/>		

3)

168	205	217	282
198	203	291	319
<hr/> > <hr/> > <hr/> > <hr/>			

9)

168		98
239		152
<hr/> > <hr/> > <hr/>		

4)

289	789	849	538
245	826	807	490
<hr/> > <hr/> > <hr/> > <hr/>			

10)

120		224
165		311
<hr/> > <hr/> > <hr/>		

5)

984	495	649	955
655	393	461	610
<hr/> > <hr/> > <hr/> > <hr/>			

11)

250		317
190		270
<hr/> > <hr/> > <hr/>		

12)

245		206
342		323
<hr/> > <hr/> > <hr/>		

For each incorrect answer,
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problems

6'00"~ : Need Work

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5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{258}{338} > \frac{69}{101} > \frac{171}{265} > \frac{73}{119}$
	0.763 0.683 0.645 0.613

2)	$\frac{110}{202} > \frac{66}{134} > \frac{47}{104} > \frac{85}{206}$
	0.545 0.493 0.452 0.413

3)	$\frac{205}{203} > \frac{282}{319} > \frac{168}{198} > \frac{217}{291}$
	1.010 0.884 0.848 0.746

4)	$\frac{289}{245} > \frac{538}{490} > \frac{849}{807} > \frac{789}{826}$
	1.180 1.098 1.052 0.955

5)	$\frac{955}{610} > \frac{984}{655} > \frac{649}{461} > \frac{495}{393}$
	1.566 1.502 1.408 1.260

6)	$\frac{247}{275} > \frac{275}{0.898}$
	3.24% -> 255 299
7)	$\frac{267}{254} < \frac{254}{1.051}$
	8.73% -> 0.898 0.853
8)	$\frac{153}{234} > \frac{234}{0.654}$
	38.34% <- 193 189
9)	$\frac{168}{239} < \frac{239}{0.703}$
	16.99% -> 1.051 1.021
10)	$\frac{120}{165} < \frac{165}{0.727}$
	23.93% -> 179 290
11)	$\frac{250}{190} > \frac{190}{1.316}$
	71.43% <- 0.727 0.617
12)	$\frac{245}{342} < \frac{342}{0.716}$
	86.67% -> 98 152
13)	$\frac{241}{229} > \frac{229}{1.052}$
	57.24% -> 1.316 0.645
14)	$\frac{73}{66} > \frac{66}{1.106}$
	88.48% -> 224 311
15)	$\frac{136}{306} < \frac{306}{0.444}$
	26.80% <- 0.716 0.720
	18.93% -> 317 270
	42.11% <- 1.106 1.174
	37.76% -> 206 323
	5.88% <- 0.716 0.638
	45.41% -> 332 333
	121.92% -> 0.716 0.997
	137.88% -> 162 157
	106.06% <- 1.106 1.032
	105.37% <- 0.716 0.443

1)

318	154	259	279
251	153	277	252
<hr/>			
_____ > _____ > _____ > _____			

6)

166		279
164		278
<hr/>		

2)

318	301	213	235
226	164	132	157
<hr/>			
_____ > _____ > _____ > _____			

7)

81		232
105		261
<hr/>		

8)

333		81
84		22
<hr/>		

3)

218	142	315	136
244	170	334	136
<hr/>			
_____ > _____ > _____ > _____			

9)

145		58
301		121
<hr/>		

10)

263		139
194		99
<hr/>		

4)

351	209	215	434
579	316	291	812
<hr/>			
_____ > _____ > _____ > _____			

11)

57		165
124		329
<hr/>		

12)

82		334
59		231
<hr/>		

5)

836	436	691	519
639	391	718	415
<hr/>			
_____ > _____ > _____ > _____			

For each incorrect answer,
15" is added
to the time
taken to solve
problems

6'00"~	: Need Work
5'30"~6'00" : Acceptable	
5'00"~5'30" : Average	
4'30"~5'00" : good	
4'00"~4'30" : Excellent	
~4'00" : Superior	

1)	$\frac{318}{251} > \frac{279}{252} > \frac{154}{153} > \frac{259}{277}$
1.267	1.107
1.007	0.935

2)	$\frac{301}{164} > \frac{213}{132} > \frac{235}{157} > \frac{318}{226}$
1.835	1.614
1.497	1.407

3)	$\frac{136}{136} > \frac{315}{334} > \frac{218}{244} > \frac{142}{170}$
1.000	0.943
0.893	0.835

4)	$\frac{215}{291} > \frac{209}{316} > \frac{351}{579} > \frac{434}{812}$
0.739	0.661
0.606	0.534

5)	$\frac{836}{639} > \frac{519}{415} > \frac{436}{391} > \frac{691}{718}$
1.308	1.251
1.115	0.962

6)	$\frac{166}{164} > \frac{164}{1.012}$
1.004	1.004
279	278
278	1.004
232	261
261	0.889
81	22
22	3.682
58	121
121	0.479
139	99
99	1.404
165	329
329	0.502
334	231
231	1.446
205	251
251	0.817
100	266
266	0.376
212	299
299	0.709

3:26

26

1)

150	108	247	319
<u>116</u>	<u>107</u>	<u>226</u>	<u>264</u>
1	4	3	2
_____	>	_____	_____

2)

236	110	256	329
<u>263</u>	<u>103</u>	<u>211</u>	<u>341</u>
4	2	/	3
_____	>	_____	_____

3)

54	57	89	270
<u>46</u>	<u>43</u>	<u>82</u>	<u>183</u>
3	2	4	1
_____	>	_____	_____

4)

929	768	104	696
<u>403</u>	<u>280</u>	<u>42</u>	<u>240</u>
4	2	3	/
_____	>	_____	_____

5)

913	540	243	835
<u>959</u>	<u>598</u>	<u>307</u>	<u>991</u>
1	2	4	3
_____	>	_____	_____

6)

216	>	105
312		161

7)

29	>	138
31		153

8)

118	<	253
<u>314</u>		335

9)

274	<	322
216		224

10)

145	<	316
<u>78</u>	<u>156</u>	165 330

11)

126	>	151
92	31.	117 31.

12)

134	<	238
149		246

13)

68	<	169
149		330

14)

58	>	248
39		180

15)

182	<	52
<u>220</u>	<u>110</u>	<u>64</u>
182	110	64
104	52	104
128	52	128

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5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior



1)

$$\frac{150}{116} > \frac{319}{264} > \frac{247}{226} > \frac{108}{107}$$

1.293

1.208

1.093

1.009

2)

$$\frac{256}{211} > \frac{110}{103} > \frac{329}{341} > \frac{236}{263}$$

1.213

1.068

0.965

0.897

4)

$$\frac{696}{240} > \frac{768}{280} > \frac{104}{42} > \frac{929}{403}$$

2.900

2.743

2.476

2.305

5)

$$\frac{913}{959} > \frac{540}{598} > \frac{835}{991} > \frac{243}{307}$$

0.952

0.903

0.843

0.792

6)

1)

$$\begin{array}{r} 66 \\ \underline{\times} 96 \\ \hline 150 \\ \hline 200 \\ \hline 143 \\ \underline{\times} 175 \\ \hline 62 \\ \hline 103 \end{array}$$

3 > 2 > 1 > 4

2)

$$\begin{array}{r} 185 \\ \underline{\times} 108 \\ \hline 172 \\ \underline{\times} 124 \\ \hline 235 \\ \underline{\times} 147 \\ \hline 239 \\ \underline{\times} 127 \end{array}$$

2 > 4 > 7 > 1

3)

$$\begin{array}{r} 108 \\ \underline{\times} 170 \\ \hline 158 \\ \underline{\times} 317 \\ \hline 198 \\ \underline{\times} 292 \\ \hline 33 \\ \underline{\times} 58 \end{array}$$

2 > 4 > 1 > 3

4)

$$\begin{array}{r} 884 \\ \underline{\times} 737 \\ \hline 645 \\ \underline{\times} 484 \\ \hline 485 \\ \underline{\times} 379 \\ \hline 697 \\ \underline{\times} 667 \end{array}$$

7 > 1 > 2 > 4

5)

$$\begin{array}{r} 901 \\ \underline{\times} 424 \\ \hline 882 \\ \underline{\times} 388 \\ \hline 408 \\ \underline{\times} 215 \\ \hline 883 \\ \underline{\times} 530 \end{array}$$

2 > 1 > 7 > 4

6)

$$\begin{array}{r} 189 \\ \underline{\times} 211 \\ \hline 283 \\ \hline 329 \end{array}$$

>

7)

$$\begin{array}{r} 184 \\ \underline{\times} 142 \\ \hline 156 \\ \hline 132 \end{array}$$

)

8)

$$\begin{array}{r} 263 \\ \underline{\times} 230 \\ \hline 172 \\ \hline 163 \end{array}$$

)

9)

$$\begin{array}{r} 97 \\ \underline{\times} 86 \\ \hline 278 \\ \hline 240 \end{array}$$

L

10)

$$\begin{array}{r} 185 \\ \underline{\times} 262 \\ \hline 187 \\ \hline 288 \end{array}$$

D

11)

$$\begin{array}{r} 207 \\ \underline{\times} 327 \\ \hline 88 \\ \hline 123 \end{array}$$

L

12)

$$\begin{array}{r} 99 \\ \underline{\times} 105 \\ \hline 149 \\ \hline 177 \end{array}$$

D

13)

$$\begin{array}{r} 264 \\ \underline{\times} 208 \\ \hline 132 \\ \hline 105 \end{array}$$

)

14)

$$\begin{array}{r} 127 \\ \underline{\times} 154 \\ \hline 270 \\ \hline 339 \end{array}$$

)

15)

$$\begin{array}{r} 221 \\ \underline{\times} 120 \\ \hline 295 \\ \hline 162 \end{array}$$

D

For each incorrect answer,
15" is added
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problems

6'00"~ : Need Work

5'30"~6'00" : Acceptable

5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{143}{175} > \frac{150}{200} > \frac{66}{96} > \frac{62}{103}$
	0.817 0.750 0.688 0.602

2)	$\frac{239}{127} > \frac{185}{108} > \frac{235}{147} > \frac{172}{124}$
	1.882 1.713 1.599 1.387

3)	$\frac{198}{292} > \frac{108}{170} > \frac{33}{58} > \frac{158}{317}$
	0.678 0.635 0.569 0.498

4)	$\frac{645}{484} > \frac{485}{379} > \frac{884}{737} > \frac{697}{667}$
	1.333 1.280 1.199 1.045

5)	$\frac{882}{388} > \frac{901}{424} > \frac{408}{215} > \frac{883}{530}$
	2.273 2.125 1.898 1.666

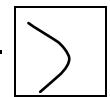
6)	$\frac{189}{211} > \frac{0.896}{0.860}$
	49.74% -> 283 329
7)	$\frac{184}{142} < \frac{1.296}{1.182}$
	55.92% -> 0.860 0.896
8)	$\frac{263}{230} < \frac{1.143}{1.055}$
	17.95% <- 156 132
9)	$\frac{97}{86} > \frac{1.128}{1.158}$
	7.58% <- 1.182 1.143
10)	$\frac{185}{262} > \frac{0.706}{0.649}$
	52.91% <- 172 163
11)	$\frac{207}{327} < \frac{0.633}{0.715}$
	41.10% <- 1.055 1.128
12)	$\frac{99}{105} > \frac{0.943}{0.842}$
	186.60% <- 278 240
13)	$\frac{264}{208} < \frac{1.269}{1.257}$
	1.08% <- 1.158 1.128
14)	$\frac{127}{154} > \frac{0.825}{0.796}$
	135.23% <- 187 288
15)	$\frac{221}{120} > \frac{1.842}{1.821}$
	9.92% <- 0.649 0.633
	100.00% <- 0.715 0.633
	50.51% <- 149 177
	165.85% <- 0.842 0.943
	132 105
	112.60% <- 1.257 1.269
	100.00% <- 1.257 1.269
	132 105
	120.13% <- 0.796 0.825
	270 339
	33.48% <- 1.821 1.842
	295 162
	35.00% <- 1.821 1.842

1)

$$\begin{array}{r} 103 \\ 135 \\ \hline 247 \\ 266 \\ \hline 202 \\ 234 \\ \hline 181 \\ 187 \\ \hline \end{array}$$

4 > 2 > 3 > 1

6)

$$\begin{array}{r} 315 \\ 266 \\ \hline \end{array}$$


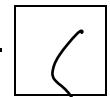
$$\begin{array}{r} 233 \\ 218 \\ \hline \end{array}$$

2)

$$\begin{array}{r} 70 \\ 113 \\ \hline 261 \\ 296 \\ \hline 150 \\ 189 \\ \hline 170 \\ 242 \\ \hline \end{array}$$

4 > 1 > 2 > 3

8)

$$\begin{array}{r} 142 \\ 116 \\ \hline \end{array}$$


$$\begin{array}{r} 281 \\ 199 \\ \hline \end{array}$$

3)

$$\begin{array}{r} 184 \\ 264 \\ \hline 241 \\ 309 \\ \hline 172 \\ 193 \\ \hline 194 \\ 313 \\ \hline \end{array}$$

3 > 2 > 1 > 4

9)

$$\begin{array}{r} 65 \\ 224 \\ \hline \end{array}$$

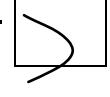

$$\begin{array}{r} 73 \\ 224 \\ \hline \end{array}$$

4)

$$\begin{array}{r} 370 \\ 648 \\ \hline 365 \\ 490 \\ \hline 488 \\ 803 \\ \hline 604 \\ 879 \\ \hline \end{array}$$

4 > 1 > 3 > 2

10)

$$\begin{array}{r} 143 \\ 84 \\ \hline \end{array}$$


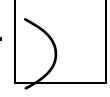
$$\begin{array}{r} 126 \\ 83 \\ \hline \end{array}$$

5)

$$\begin{array}{r} 669 \\ 579 \\ \hline 560 \\ 437 \\ \hline 537 \\ 485 \\ \hline 577 \\ 432 \\ \hline \end{array}$$

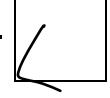
3 > 2 > 4 > 1

11)

$$\begin{array}{r} 226 \\ 108 \\ \hline \end{array}$$


$$\begin{array}{r} 71 \\ 34 \\ \hline \end{array}$$

12)

$$\begin{array}{r} 275 \\ 262 \\ \hline \end{array}$$


$$\begin{array}{r} 118 \\ 111 \\ \hline \end{array}$$

13)

$$\begin{array}{r} 304 \\ 92 \\ \hline \end{array}$$


$$\begin{array}{r} 216 \\ 57 \\ \hline \end{array}$$

14)

$$\begin{array}{r} 63 \\ 143 \\ \hline \end{array}$$


$$\begin{array}{r} 164 \\ 325 \\ \hline \end{array}$$

15)

$$\begin{array}{r} 173 \\ 205 \\ \hline \end{array}$$


$$\begin{array}{r} 214 \\ 221 \\ \hline \end{array}$$

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6'00"~ : Need Work

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5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{181}{187} > \frac{247}{266} > \frac{202}{234} > \frac{103}{135}$
	0.968 0.929 0.863 0.763

2)	$\frac{261}{296} > \frac{150}{189} > \frac{170}{242} > \frac{70}{113}$
	0.882 0.794 0.702 0.619

3)	$\frac{172}{193} > \frac{241}{309} > \frac{184}{264} > \frac{194}{313}$
	0.891 0.780 0.697 0.620

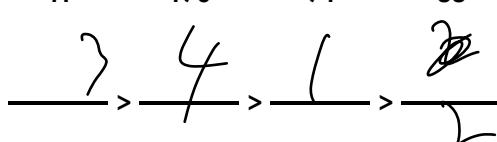
4)	$\frac{365}{490} > \frac{604}{879} > \frac{488}{803} > \frac{370}{648}$
	0.745 0.687 0.608 0.571

5)	$\frac{577}{432} > \frac{560}{437} > \frac{669}{579} > \frac{537}{485}$
	1.336 1.281 1.155 1.107

6)	$\frac{315}{266} < \frac{233}{218}$
	1.184 22.02% 233 218
7)	$\frac{30}{29} > \frac{310}{305}$
	1.034 933.33% 310 305
8)	$\frac{142}{116} > \frac{281}{199}$
	1.224 97.89% 281 199
9)	$\frac{65}{224} < \frac{73}{224}$
	0.290 71.55% 73 224
10)	$\frac{143}{84} > \frac{126}{83}$
	1.702 12.31% 143 126
11)	$\frac{226}{108} > \frac{71}{34}$
	2.093 13.49% 226 71
12)	$\frac{275}{262} > \frac{118}{111}$
	1.050 218.31% 275 118
13)	$\frac{304}{92} > \frac{216}{57}$
	3.304 217.65% 304 216
14)	$\frac{63}{143} > \frac{164}{325}$
	0.441 133.05% 63 164
15)	$\frac{173}{205} > \frac{214}{221}$
	0.844 40.74% 173 214

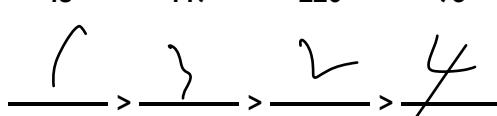
1)

$$\begin{array}{r} 63 \\ 41 \\ \hline 251 \\ 170 \\ \hline 161 \\ 94 \\ \hline 144 \\ 88 \\ \hline \end{array}$$



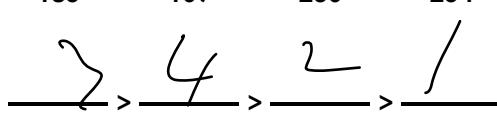
2)

$$\begin{array}{r} 56 \\ 48 \\ \hline 110 \\ 117 \\ \hline 246 \\ 226 \\ \hline 84 \\ 93 \\ \hline \end{array}$$



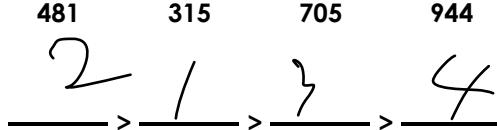
3)

$$\begin{array}{r} 187 \\ 185 \\ \hline 153 \\ 169 \\ \hline 256 \\ 236 \\ \hline 298 \\ 254 \\ \hline \end{array}$$



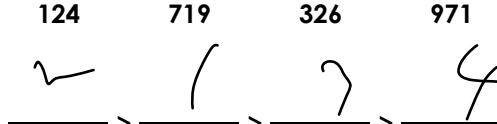
4)

$$\begin{array}{r} 420 \\ 481 \\ \hline 293 \\ 315 \\ \hline 581 \\ 705 \\ \hline 719 \\ 944 \\ \hline \end{array}$$



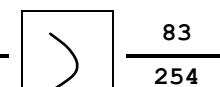
5)

$$\begin{array}{r} 148 \\ 124 \\ \hline 927 \\ 719 \\ \hline 368 \\ 326 \\ \hline 953 \\ 971 \\ \hline \end{array}$$



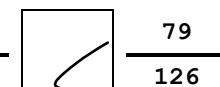
6)

$$\begin{array}{r} 95 \\ 288 \\ \hline \end{array}$$



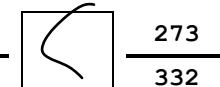
7)

$$\begin{array}{r} 146 \\ 268 \\ \hline \end{array}$$



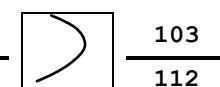
8)

$$\begin{array}{r} 130 \\ 163 \\ \hline \end{array}$$



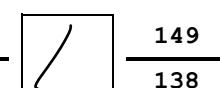
9)

$$\begin{array}{r} 279 \\ 300 \\ \hline \end{array}$$



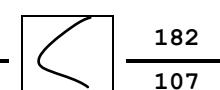
10)

$$\begin{array}{r} 303 \\ 285 \\ \hline \end{array}$$



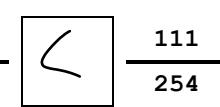
11)

$$\begin{array}{r} 142 \\ 91 \\ \hline \end{array}$$



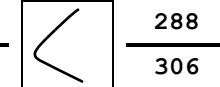
12)

$$\begin{array}{r} 71 \\ 168 \\ \hline \end{array}$$



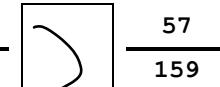
13)

$$\begin{array}{r} 75 \\ 90 \\ \hline \end{array}$$



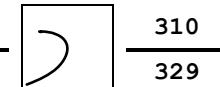
14)

$$\begin{array}{r} 117 \\ 316 \\ \hline \end{array}$$



15)

$$\begin{array}{r} 195 \\ 184 \\ \hline \end{array}$$



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5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{161}{94} > \frac{144}{88} > \frac{63}{41} > \frac{251}{170}$
	1.713 1.636 1.537 1.476

2)	$\frac{56}{48} > \frac{246}{226} > \frac{110}{117} > \frac{84}{93}$
	1.167 1.088 0.940 0.903

3)	$\frac{298}{254} > \frac{256}{236} > \frac{187}{185} > \frac{153}{169}$
	1.173 1.085 1.011 0.905

4)	$\frac{293}{315} > \frac{420}{481} > \frac{581}{705} > \frac{719}{944}$
	0.930 0.873 0.824 0.762

5)	$\frac{927}{719} > \frac{148}{124} > \frac{368}{326} > \frac{953}{971}$
	1.289 1.194 1.129 0.981

6)	$\frac{95}{288} < \frac{0.330}{0.327}$
	14.46% <- 83 254
7)	$\frac{146}{268} < \frac{0.545}{0.627}$
	13.39% <- 79 126
8)	$\frac{130}{163} > \frac{0.798}{0.822}$
	84.81% <- 110.00% 273 332
9)	$\frac{279}{300} < \frac{0.930}{0.920}$
	112.70% <- 103 112
10)	$\frac{303}{285} < \frac{1.063}{1.080}$
	103.68% <- 149 138
11)	$\frac{142}{91} > \frac{1.560}{1.701}$
	170.87% <- 182 107
12)	$\frac{71}{168} > \frac{0.423}{0.437}$
	103.36% <- 111 254
13)	$\frac{75}{90} > \frac{0.833}{0.941}$
	56.34% <- 288 306
14)	$\frac{117}{316} < \frac{0.370}{0.358}$
	284.00% <- 57 159
15)	$\frac{195}{184} > \frac{1.060}{0.942}$
	105.26% <- 310 329

1)

$$\begin{array}{r} 92 \\ 109 \\ \hline 215 \\ 240 \\ \hline 30 \\ 40 \\ \hline 261 \\ 323 \\ \hline \end{array}$$

2 > 1 > 4 > 3

2)

$$\begin{array}{r} 267 \\ 281 \\ \hline 273 \\ 339 \\ \hline 238 \\ 229 \\ \hline 258 \\ 306 \\ \hline \end{array}$$

2 > 4 > 1 > 3

3)

$$\begin{array}{r} 174 \\ 175 \\ \hline 245 \\ 294 \\ \hline 268 \\ 291 \\ \hline 110 \\ 140 \\ \hline \end{array}$$

1 > 3 > 2 > 4

4)

$$\begin{array}{r} 256 \\ 240 \\ \hline 503 \\ 491 \\ \hline 852 \\ 708 \\ \hline 492 \\ 547 \\ \hline \end{array}$$

2 > 7 > 1 > 4

5)

$$\begin{array}{r} 592 \\ 920 \\ \hline 324 \\ 387 \\ \hline 111 \\ 150 \\ \hline 611 \\ 897 \\ \hline \end{array}$$

4 > 1 > 2 > 3

6)

$$\begin{array}{r} 119 \\ 223 \\ \hline \end{array}$$

138
223

7)

$$\begin{array}{r} 300 \\ 157 \\ \hline \end{array}$$

313
180

8)

$$\begin{array}{r} 234 \\ 70 \\ \hline \end{array}$$

265
86

9)

$$\begin{array}{r} 312 \\ 207 \\ \hline \end{array}$$

244
144

10)

$$\begin{array}{r} 306 \\ 198 \\ \hline \end{array}$$

181
101

11)

$$\begin{array}{r} 84 \\ 113 \\ \hline \end{array}$$

194
286

12)

$$\begin{array}{r} 203 \\ 221 \\ \hline \end{array}$$

223
226

13)

$$\begin{array}{r} 173 \\ 62 \\ \hline \end{array}$$

287
112

14)

$$\begin{array}{r} 270 \\ 188 \\ \hline \end{array}$$

67
45

15)

$$\begin{array}{r} 248 \\ 246 \\ \hline \end{array}$$

167
173

For each incorrect answer,
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problems

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5'30"~6'00"	: Acceptable
5'00"~5'30"	: Average
4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

1)	$\frac{215}{240} > \frac{92}{109} > \frac{261}{323} > \frac{30}{40}$	0.896	0.844	0.808	0.750
----	--	-------	-------	-------	-------

2)	$\frac{238}{229} > \frac{267}{281} > \frac{258}{306} > \frac{273}{339}$	1.039	0.950	0.843	0.805
----	---	-------	-------	-------	-------

3)	$\frac{174}{175} > \frac{268}{291} > \frac{245}{294} > \frac{110}{140}$	0.994	0.921	0.833	0.786
----	---	-------	-------	-------	-------

4)	$\frac{852}{708} > \frac{256}{240} > \frac{503}{491} > \frac{492}{547}$	1.203	1.067	1.024	0.899
----	---	-------	-------	-------	-------

5)	$\frac{324}{387} > \frac{111}{150} > \frac{611}{897} > \frac{592}{920}$	0.837	0.740	0.681	0.643
----	---	-------	-------	-------	-------

6)	$\frac{119}{223}$	0.534	15.97% -> ->	138 223 0.619
7)	$\frac{300}{157}$	1.911	4.33% -> ->	313 180 1.739
8)	$\frac{234}{70}$	3.343	14.65% 13.25% -> ->	265 86 3.081
9)	$\frac{312}{207}$	1.507	22.86% 27.87% <- <-	244 144 1.694
10)	$\frac{306}{198}$	1.545	69.06% 96.04% <- <-	181 101 1.792
11)	$\frac{84}{113}$	0.743	130.95% 153.10% -> ->	194 286 0.678
12)	$\frac{203}{221}$	0.919	9.85% -> ->	223 226 0.987
13)	$\frac{173}{62}$	2.790	65.90% 80.65% -> ->	287 112 2.563
14)	$\frac{270}{188}$	1.436	302.99% 317.78% <- <-	67 45 1.489
15)	$\frac{248}{246}$	1.008	48.50% 42.20% <- <-	167 173 0.965

1)

$$\begin{array}{r} 172 \\ 275 \\ \hline 245 \\ 309 \\ \hline 91 \\ 131 \\ \hline 256 \\ 293 \\ \hline \end{array}$$

4 > 2 > 3 > 1

6)

$$\begin{array}{r} 296 \\ 321 \\ \hline \end{array}$$

L 202
207

2)

$$\begin{array}{r} 231 \\ 180 \\ \hline 116 \\ 108 \\ \hline 292 \\ 238 \\ \hline 303 \\ 211 \\ \hline \end{array}$$

2 > 4 > 3 > 1

8)

$$\begin{array}{r} 303 \\ 329 \\ \hline \end{array}$$

D 259
291

3)

$$\begin{array}{r} 304 \\ 287 \\ \hline 197 \\ 199 \\ \hline 55 \\ 49 \\ \hline 283 \\ 241 \\ \hline \end{array}$$

Ø > 4 > 2 > Ø 1
3

10)

$$\begin{array}{r} 266 \\ 328 \\ \hline \end{array}$$

L 261
284

4)

$$\begin{array}{r} 440 \\ 704 \\ \hline 389 \\ 832 \\ \hline 204 \\ 418 \\ \hline 512 \\ 933 \\ \hline \end{array}$$

1 > 4 > 3 > 2

11)

$$\begin{array}{r} 208 \\ 127 \\ \hline \end{array}$$

C 241
135

5)

$$\begin{array}{r} 633 \\ 650 \\ \hline 956 \\ 885 \\ \hline 719 \\ 807 \\ \hline 478 \\ 609 \\ \hline \end{array}$$

2 > 1 > 3 > 4

13)

$$\begin{array}{r} 18 \\ 62 \\ \hline \end{array}$$

D 96
337

14)

$$\begin{array}{r} 289 \\ 201 \\ \hline \end{array}$$

L 149
98

15)

$$\begin{array}{r} 56 \\ 193 \\ \hline \end{array}$$

S 50
189

For each incorrect answer,
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problems

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5'30"~6'00" : Acceptable

5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)

$$\frac{256}{293} > \frac{245}{309} > \frac{91}{131} > \frac{172}{275}$$

0.874	0.793	0.695	0.625
-------	-------	-------	-------

2)

$$\frac{303}{211} > \frac{231}{180} > \frac{292}{238} > \frac{116}{108}$$

1.436	1.283	1.227	1.074
-------	-------	-------	-------

3)

$$\frac{283}{241} > \frac{55}{49} > \frac{304}{287} > \frac{197}{199}$$

1.174	1.122	1.059	0.990
-------	-------	-------	-------

4)

$$\frac{440}{704} > \frac{512}{933} > \frac{204}{418} > \frac{389}{832}$$

0.625	0.549	0.488	0.468
-------	-------	-------	-------

5)

$$\frac{956}{885} > \frac{633}{650} > \frac{719}{807} > \frac{478}{609}$$

1.080	0.974	0.891	0.785
-------	-------	-------	-------

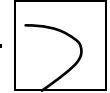
6)	<u>296</u>	46.53%	202
	321	<-	207
	0.922	55.07%	0.976
7)	<u>302</u>	34.82%	224
	294	<-	231
	1.027	27.27%	0.970
8)	<u>303</u>	16.99%	259
	329	<-	291
	0.921	13.06%	0.890
9)	<u>309</u>	36.73%	226
	311	<-	229
	0.994	35.81%	0.987
10)	<u>266</u>	1.92%	261
	328	<-	284
	0.811	15.49%	0.919
11)	<u>208</u>	15.87%	241
	127	->	135
	1.638	6.30%	1.785
12)	<u>305</u>	156.30%	119
	294	<-	115
	1.037	155.65%	1.035
13)	<u>18</u>	433.33%	337
	62	<-	96
	0.290	443.55%	0.285
14)	<u>289</u>	93.96%	149
	201	<-	98
	1.438	105.10%	1.520
15)	<u>56</u>	12.00%	50
	193	<-	189
	0.290	2.12%	0.265

1)

$$\begin{array}{r} 214 \\ 201 \\ \hline 269 \\ 291 \\ \hline 274 \\ 324 \\ \hline 75 \\ 96 \\ \hline \end{array}$$

1 > 2 > 3 > 4

6)

$$\begin{array}{r} 125 \\ 212 \\ \hline \end{array}$$


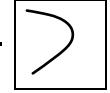
24
44

2)

$$\begin{array}{r} 341 \\ 226 \\ \hline 305 \\ 178 \\ \hline 293 \\ 225 \\ \hline 163 \\ 131 \\ \hline \end{array}$$

2 > 1 > 3 > 4

8)

$$\begin{array}{r} 166 \\ 299 \\ \hline \end{array}$$


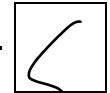
138
250

3)

$$\begin{array}{r} 319 \\ 272 \\ \hline 229 \\ 224 \\ \hline 34 \\ 35 \\ \hline 304 \\ 326 \\ \hline \end{array}$$

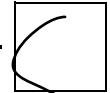
1 > 2 > 3 > 4

9)

$$\begin{array}{r} 269 \\ 196 \\ \hline \end{array}$$


324
218

10)

$$\begin{array}{r} 323 \\ 250 \\ \hline \end{array}$$


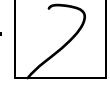
263
188

4)

$$\begin{array}{r} 986 \\ 925 \\ \hline 830 \\ 893 \\ \hline 567 \\ 413 \\ \hline 994 \\ 806 \\ \hline \end{array}$$

3 > 4 > 1 > 2

11)

$$\begin{array}{r} 290 \\ 250 \\ \hline \end{array}$$


146
142

12)

$$\begin{array}{r} 114 \\ 100 \\ \hline \end{array}$$


298
239

5)

$$\begin{array}{r} 497 \\ 514 \\ \hline 774 \\ 977 \\ \hline 571 \\ 625 \\ \hline 674 \\ 815 \\ \hline \end{array}$$

1 > 4 > 2 > 3

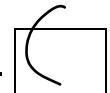
For each incorrect answer,
15" is added
to the time
taken to solve
problems

13)

$$\begin{array}{r} 281 \\ 286 \\ \hline \end{array}$$

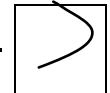

172
159

14)

$$\begin{array}{r} 229 \\ 218 \\ \hline \end{array}$$


299
262

15)

$$\begin{array}{r} 76 \\ 126 \\ \hline \end{array}$$


147
250

6'00"~ : Need Work

5'30"~6'00" : Acceptable

5'00"~5'30" : Average

4'30"~5'00" : good

4'00"~4'30" : Excellent

~4'00" : Superior

1)	$\frac{214}{201} > \frac{269}{291} > \frac{274}{324} > \frac{75}{96}$
	1.065 0.924 0.846 0.781

2)	$\frac{305}{178} > \frac{341}{226} > \frac{293}{225} > \frac{163}{131}$
	1.713 1.509 1.302 1.244

3)	$\frac{319}{272} > \frac{229}{224} > \frac{34}{35} > \frac{304}{326}$
	1.173 1.022 0.971 0.933

4)	$\frac{567}{413} > \frac{994}{806} > \frac{986}{925} > \frac{830}{893}$
	1.373 1.233 1.066 0.929

5)	$\frac{497}{514} > \frac{571}{625} > \frac{674}{815} > \frac{774}{977}$
	0.967 0.914 0.827 0.792

6)	$\frac{125}{212} < \frac{24}{44}$
	0.590 0.545
7)	$\frac{165}{101} > \frac{334}{191}$
	1.634 1.749
8)	$\frac{166}{299} < \frac{138}{250}$
	0.555 0.552
9)	$\frac{269}{196} > \frac{324}{218}$
	1.372 1.486
10)	$\frac{323}{250} < \frac{263}{188}$
	1.292 1.399
11)	$\frac{290}{250} < \frac{146}{142}$
	1.160 1.028
12)	$\frac{114}{100} > \frac{298}{239}$
	1.140 1.247
13)	$\frac{281}{286} < \frac{172}{159}$
	0.983 1.082
14)	$\frac{229}{218} > \frac{299}{262}$
	1.050 1.141
15)	$\frac{76}{126} > \frac{147}{250}$
	0.603 0.588

3:08

1)

$\frac{148}{147}$	$\frac{191}{246}$	$\frac{247}{224}$	$\frac{249}{283}$
2	4	1	3
>	>	>	_____

6)

$\frac{154}{108}$	>	$\frac{303}{230}$
-------------------	---	-------------------

2)

$\frac{191}{287}$	$\frac{125}{213}$	$\frac{204}{278}$	$\frac{149}{236}$
2	4	1	3
>	>	>	_____

8)

$\frac{163}{257}$	<	$\frac{162}{228}$
-------------------	---	-------------------

3)

$\frac{299}{331}$	$\frac{218}{258}$	$\frac{104}{144}$	$\frac{182}{240}$
1	2	4	3
>	>	>	_____

9)

$\frac{231}{51}$	>	$\frac{116}{26}$	$\frac{232}{52}$
------------------	---	------------------	------------------

4)

$\frac{621}{565}$	$\frac{833}{656}$	$\frac{482}{581}$	$\frac{254}{268}$
2	1	4	3
>	>	>	_____

10)

$\frac{158}{142}$	<	$\frac{229}{193}$
-------------------	---	-------------------

5)

$\frac{358}{505}$	$\frac{583}{714}$	$\frac{403}{526}$	$\frac{301}{487}$
3	1	2	4
>	>	>	_____

11)

$\frac{191}{340}$	<	$\frac{158}{253}$
-------------------	---	-------------------

12)

$\frac{98}{215}$	>	$\frac{79}{191}$
------------------	---	------------------

13)

$\frac{148}{84}$	<	$\frac{120}{256}$
--	---	---

14)

$\frac{44}{72}$	<	$\frac{181}{280}$
-----------------	---	-------------------

15)

$\frac{246}{299}$	<	$\frac{164}{178}$
-------------------	---	-------------------

For each incorrect answer,
15" is added
to the time
taken to solve
problems

6'00"~	: Need Work
5'30"~6'00"	: Acceptable
5'00"~5'30"	: Average
4'30"~5'00"	: good
4'00"~4'30"	: Excellent
~4'00"	: Superior

1)	$\frac{247}{224} > \frac{148}{147} > \frac{249}{283} > \frac{191}{246}$
224	147
1.103	1.007
0.880	0.776

2)	$\frac{204}{278} > \frac{191}{287} > \frac{149}{236} > \frac{125}{213}$
278	287
0.734	0.666
0.631	0.587

3)	$\frac{299}{331} > \frac{218}{258} > \frac{182}{240} > \frac{104}{144}$
331	258
0.903	0.845
0.758	0.722

4)	$\frac{833}{656} > \frac{621}{565} > \frac{254}{268} > \frac{482}{581}$
656	565
1.270	1.099
0.948	0.830

5)	$\frac{583}{714} > \frac{403}{526} > \frac{358}{505} > \frac{301}{487}$
714	526
0.817	0.766
0.709	0.618

6)	$\frac{154}{108} > \frac{1.426}{1.426}$
154	108
1.426	1.426
96.75%	->
303	230
1.317	1.317
112.96%	->
7)	$\frac{273}{179} < \frac{1.525}{1.525}$
273	179
1.525	1.525
22.42%	<-
223	150
1.487	1.487
19.33%	<-
8)	$\frac{163}{257} < \frac{0.634}{0.634}$
163	257
0.634	0.634
0.62%	<-
162	228
0.711	0.711
12.72%	<-
9)	$\frac{231}{51} < \frac{4.529}{4.529}$
231	51
4.529	4.529
99.14%	<-
116	26
4.462	4.462
96.15%	<-
10)	$\frac{158}{142} > \frac{1.113}{1.113}$
158	142
1.113	1.113
44.94%	->
229	193
1.187	1.187
35.92%	->
11)	$\frac{191}{340} < \frac{0.562}{0.562}$
191	340
0.562	0.562
20.89%	<-
158	253
0.625	0.625
34.39%	<-
12)	$\frac{98}{215} < \frac{0.456}{0.456}$
98	215
0.456	0.456
24.05%	<-
79	191
0.414	0.414
12.57%	<-
13)	$\frac{148}{84} > \frac{1.762}{1.762}$
148	84
1.762	1.762
72.97%	->
256	138
1.855	1.855
64.29%	->
14)	$\frac{44}{72} > \frac{0.611}{0.611}$
44	72
0.611	0.611
311.36%	->
181	280
0.646	0.646
288.89%	->
15)	$\frac{246}{299} < \frac{0.823}{0.823}$
246	299
0.823	0.823
50.00%	<-
164	178
0.921	0.921
67.98%	<-