I em Parame ers for he TIMSS 2015 S den s Val e Ma hema ics Scale, Eigh h Grade

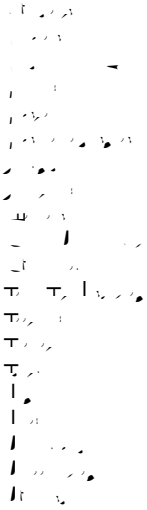
		1	2	3	
20	-0.0 1	-0. 37	-0.′ 1 2	1.37 10	1.0
20	0.1 2	-1.33201	-0. 13′	1.7733	1.0
20	-0.2′′01	-0. 177	-0.2 071	1.232	0. 7
20	-0.0 7 7	-1.0 2	-0.1′71′	1.2 7	0. 0
20	1.′0′3	-1.33717	-0.0′ 7	1.3 70	1.32
20	0.03′ 3	-1.1	-0.3 32	1.′3023	0.
20	-0.2 37	-1.00 3	-0. 7′71	1. 0′	0. ′
20	-0.′2 2	-0. 3	-0. 17′0	1.3 33	1.17
20	-0.′′3′′	-0.7 232	-0.′ 0	1.33222	0. 1

Scale Transforma ion Cons an s for he TIMSS 2015 S den s Val e Ma hema ics Scale, Eigh h Grade

	7. 227	
	1.23 2	9E:CF>DEB=< 8;:A= 8;DE= ,)!+(&$$) #!$%&(&$ H 6D?%G 8;:A= 8;DE=

Eq i alence Table of Ra and Transformed Scale Scores for he TIMSS 2015 S den s Val e Ma hema ics Scale, Eigh h Grade

0	2. 3	
1	.33377	
2	. 171	
3	′3 ′	
	′.722′	
′	.00170	
	.2 37	
7	. 73 7	
	. ′′0	
	. 3	
10	7.0 2	
11	7.2 237	
12	7. 033	
13	7. 7 7	7.7
1	7. ′00	
1′	.0 0	
1	.320	
17	.′′′27	
1	. 02	
1	.0 0	
20	.3	
21	. ′ 3	
22	. 3 7	
23	10.37 ′3	10.3
2	10. 1 2′	
2′	11.371 3	
2	12.1 0	
27	13. ′2 2	

Cronbach's Alpha Reliabili Coefficien and Principal Componen s Anal sis of he I ems in he TIMSS 2015 S den s Val e Ma hema ics Scale, Eigh h Grade

	0. 0		0.77	0.73	0.7	0. 0	0.	0. 2	0. 1	0.	0. 0
	0. 0	7	0.72	0.73	0. 0	0.7	0. 2	0. 2	0. 2	0. 7	0.7
	0. 1	2	0.	0. 1	0.70	0.73	0.	0.72	0.70	0.	0.
	0.	2	0.71	0.	0.7	0.7	0. 3	0.77	0.7	0. 2	0.7
	0.		0.7	0.70	0.77	0.7	0.	0. 2	0. 2	0. 7	0.7
	0. 0		0.	0. 7	0.7	0. 2	0.70	0. 0	0.	0. 1	0.7
	0. 7		0.	0.71	0.7	0.7	0. 1	0.73	0.73	0.	0.71
	0. 7	1	0.71	0.	0.71	0.7	0. 0	0.7	0.7	0. 1	0.7
	0.		0.72	0.	0.73	0.77	0.7	0. 0	0.7	0.	0. 1
	0. 1	7	0.	0.73	0.77	0. 3	0.	0. 2	0.	0. 2	0.7
	0. 7	1	0.72	0. 7	0.	0.7	0.	0.7	0.7	0.	0.7
	0.	1	0.	0.	0.77	0.7	0. 7	0.7	0.7	0. 0	0.7
	0. 7	1	0.	0.	0.7	0.77	0. 3	0.7	0.77	0.	0.7
	0.		0.70	0.	0.7	0.77	0.	0. 3	0. 1	0.	0.7
	0.	7	0.71	0. 3	0.	0.7	0.	0.7	0.7	0.	0. 1
	0.	7	0. 3	0.	0.72	0.7	0.7	0. 1	0.7	0.	0.
	0.		0.	0.71	0.7	0.7	0.7	0.7	0.7	0.70	0.77
	0. 1		0.73	0. 7	0. 2	0. 3	0.70	0.7	0. 3	0.70	0.77
	0.	2	0. 0	0.	0.77	0. 0	0. 0	0.77	0. 1	0. 3	0. 0
	0.		0.	0.	0.7	0.73	0.	0.7	0.7	0.	0.73
	0.	1	0.	0.	0.7	0.7	0. 3	0. 0	0.7	0. 0	0.73
	0.	2	0.71	0.	0.73	0.7	0. 0	0.73	0.7	0. 3	0.7
	0.	3	0.	0.	0.7	0.77	0.	0.7	0.77	0.72	0.7
	0.	2	0.70	0.70	0.73	0.7	0.	0. 0	0.7	0. 1	0.7