

Exhibit 13.13: TIMSS 2015 Linear Transformation Constants for Achievement Scores at the Fourth Grade

Overall Mathematics	TIMSS 2011 Published Scores		TIMSS 2011 Re-Scaled Scores		$A_{k,i}$	$B_{k,i}$
	Mean	Standard Deviation	Mean	Standard Deviation		
PV1	501.91552	103.54133	-0.04936	1.00427	507.00466	103.10157
PV2	502.00544	103.94119	-0.04786	1.00299	506.96561	103.63170
PV3	502.35389	102.68220	-0.04820	1.00351	507.28627	102.32346
PV4	501.84105	103.49324	-0.04773	1.00347	506.76322	103.13524
PV5	501.65257	103.64052	-0.04757	1.00426	506.56219	103.20051

Overall Science	TIMSS 2011 Published Scores		TIMSS 2011 Re-Scaled Scores		$A_{k,i}$	$B_{k,i}$
	Mean	Standard Deviation	Mean	Standard Deviation		
PV1	499.45160	105.78445	-0.04165	1.00373	503.84141	105.39178
PV2	497.56584	106.72416	-0.04269	1.00417	502.10293	106.28087
PV3	498.16387	106.63119	-0.04116	1.00347	502.53750	106.26254
PV4	497.34909	106.68599	-0.04078	1.00064	501.69694	106.61724
PV5	499.15420	106.17634	-0.04151	1.00259	503.54985	105.90178