Statistical Summary of March 2004 Ohio Graduation Tests

DESCRIPTIVE STATISTICS

These statistics were computed using the entire population of students tested (from both public and non public schools) who were tested during the March 2004 administration. These are readjusted numbers and as such they may not match those preliminary data already posted on the web site.

Table 1 summarizes the reading and mathematics tests for March 2004 administration. Both tests are highly reliable with coefficients above .90.

Table 1 – Summary statistics for March 2004

	Reading	Mathematics
N-Count	137,194[*]	136,646[**]
Raw Score Minimum	0	0
Raw Score Maximum	48	46
Reliability (Cronbach alpha)	.9198	.9111
Raw Score Mean	29.93	25.37
Raw Score Standard Deviation	11.16	10.82
Raw Score SEM	3.16	3.23
Scaled Score Minimum	265	254
Scaled Score Maximum	547	546
Scaled Score Mean	426.31	415.06
Scaled Score Standard Deviation	31.71	31.95
Scaled Score SEM	8.98	9.53

[*] A total of 128,007 students from public schools and 9,187 from non public schools.

[**] A total of 127,618 students from public schools and 9,028 from non public schools.

DETERMINING LEVELS OF PERFORMANCE AND CUT SCORES

In August of 2003, House Bill 3 was signed into law. The most significant impact of this law on the Ohio Graduation Tests was the use of five categories for performance, instead of four. Intended to better show progress that schools were making both in moving students toward proficient and to the highest levels above proficient, the new categories included: Limited, Basic, Proficient, Accelerated, and Advanced. In spring of 2004, groups of Ohio educators met to recommend cut scores for the Reading and Mathematics tests. Those recommendations were adopted by the State Board of Education in June of 2004.

Table 2 presents the scaled scores associated with each of the five performance levels and the associated raw score ranges for the March 2004 administration of the reading and mathematics tests.

Table 2 – Cut score points for different performance levels

Performance Level	Reading		Mathematics	
	Raw Scores	*Scaled Scores*	*Raw Scores*	*Scaled Scores*
Advanced	39.0 – 48.0	448-547	37.5 – 46.0	444-546
Accelerated	31.5 – 38.5	429-447	30.0 – 37.0	425-443
Proficient	20.0 – 31.0	400-428	19.0 – 29.5	400-424
Basic	13.5 – 19.5	383-399	13.5 – 18.5	384-399
Limited	0.0 – 13.0	265-382	0.0 – 13.0	254-383

TEST RESULTS

Table 3 presents summarized results of student performance on the March 2004 OGT. A total of 128,007 public school tenth grade students took the reading test, and a total of 127,618 took the mathematics test. These figures include students enrolled in community schools and other public educational entities. Students with Individualized Education Plans (IEP) and/or Limited English Proficiency (LEP) are also included in the figures. Students enrolled in chartered non-public schools are not included.

In the March 2004 test administration, about 78% of students were proficient or above in reading; this proportion includes the 25.6% of students meeting the advanced standard and the 25.8% meeting the accelerated standard. Roughly 67% of students were proficient or above in mathematics; this proportion includes the 16.6% and 19.7% of students meeting the advanced and accelerated standards, respectively.

Table 3 – Results per performance levels (Public schools only)

Performance Level	Reading		Mathematics	
	Number	*Percent*	*Number*	*Percent*
Advanced	32,768	25.6%	21,180	16.6%
Accelerated	33,020	25.8%	25,080	19.7%
Proficient	33,387	26.1%	39,381	30.9%
Basic	13,353	10.4%	19,283	15.1%
Limited	15,479	12.1%	22,694	17.8%

Note: Percents may not add up to 100% due to rounding.

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PROCEDURE FOR IDENTIFICATION OF MID-RANGE OF MINIMUMALLY PROFICIENT BY CONTENT STANDARD AND RESULTS REPORTING

To provide useful feedback on student performance at content standards within a test, ODE also reports a range score for standards or strands, called "mid-range". The mid-range is defined for each strand as the area surrounding the theta for proficient cut point on the whole test. Thus, there is a critical theta at the cut score for just proficient on each operational test. The mid-range for a strand is the area around the critical theta, taking into consideration of the standard error.

Reporting Results of the OGT Reading Test

Results are reported in a scaled score for overall achievement and in the number of points received for each of the following standards:

- Acquisition of Vocabulary
- Reading Applications: Informational, Technical, and Persuasive Text
- Reading Applications: Literary Text.
- Reading Process: Concepts of Print, Comprehension Strategies and Self-Monitoring Strategies

The Phonemic Awareness, Word Recognition and Fluency standard is a K-3 standard and therefore not assessed on the Ohio Graduation Reading Test.

Reporting Results of the OGT Mathematics Test

Results are reported in a scaled score for overall achievement and in the number of points received for each of the following standards:

- Number, Number Sense, and Operations
- Measurement
- Geometry and Spatial Sense
- Patterns, Functions, and Algebra
- Data Analysis and Probability

Since Mathematics Process standard is dependent on the other standards for content, the Mathematics Process standard is embedded within each of the other standards and therefore will not be reported separately. The Mathematics Process standard will be identified with items as they are developed and as tests forms are constructed with attention to appropriate balance among benchmarks.

Table 4 presents all the mid-ranges used in each test content for reading and mathematics, respectively, as well as maximum points awarded based on the strands measured in March 2004 administration.

Table 4 – Mid-Range Values for each content standard reported

	Strand (Standard)	Mid-Range	Possible Points
READING	AV (Acquisition of Vocabulary)	4.0 – 5.0	8
	IT (Informational Text)	5.0 – 6.5	18
	LT (Literary Text)	4.0 – 5.5	12
	RP (Reading Process)	6.0 – 7.5	10
		Total Points	*48*
MATHEMATICS	A (Algebra)	5.5 – 7.0	11
	D (Data Analysis)	5.0 – 6.5	11
	G (Geometry)	3.0 – 4.5	8
	M (Measurement)	2.5 – 3.5	8
	N (Numbers, Number Sense)	2.5 – 4.0	8
		Total Points	*46*

CONVERSION TABLE OF RAW SCORES TO SCALED SCORES

Table 5 presents raw scores and associated scaled scores for the reading and mathematics tests. That conversion is based on student ability measure (theta). Raw scores are transferred into student ability scores (theta) based on the functions of items in the particular test. The theta is converted into scaled score in a linear transformation. So the theta scores to scaled scores relation is fixed, while the raw scores to scaled scores relation may change from one test form to another depending on the difficulty level of a particular test form.

Table 5 – Raw score to scaled score conversion table, March 2004 OGT administration

RAW SCORE	READING Status	READING Scaled Score	MATHEMATICS Status	MATHEMATICS Scaled Score
0.0	Limited	**265**	Limited	*254*
0.5	Limited	293	Limited	285
1.0	Limited	310	Limited	303
1.5	Limited	320	Limited	314
2.0	Limited	327	Limited	322
2.5	Limited	333	Limited	328
3.0	Limited	337	Limited	333
3.5	Limited	341	Limited	338
4.0	Limited	345	Limited	342
4.5	Limited	348	Limited	345
5.0	Limited	351	Limited	349
5.5	Limited	354	Limited	352
6.0	Limited	356	Limited	355
6.5	Limited	359	Limited	357
7.0	Limited	361	Limited	360
7.5	Limited	363	Limited	362
8.0	Limited	365	Limited	364
8.5	Limited	367	Limited	366
9.0	Limited	369	Limited	368
9.5	Limited	371	Limited	370
10.0	Limited	372	Limited	372
10.5	Limited	374	Limited	374
11.0	Limited	376	Limited	376
11.5	Limited	377	Limited	378
12.0	Limited	379	Limited	379
12.5	Limited	380	Limited	381
13.0	Limited	382	Limited	383
13.5	Basic	**383**	Basic	*384*
14.0	Basic	385	Basic	386
14.5	Basic	386	Basic	387
15.0	Basic	387	Basic	389
15.5	Basic	389	Basic	390
16.0	Basic	390	Basic	392
16.5	Basic	391	Basic	393
17.0	Basic	393	Basic	394
17.5	Basic	394	Basic	396
18.0	Basic	395	Basic	397
18.5	Basic	397	Basic	398
19.0	Basic	398	Proficient	*400*
19.5	Basic	399	Proficient	401
20.0	Proficient	**400**	Proficient	402
20.5	Proficient	402	Proficient	403
21.0	Proficient	403	Proficient	404
21.5	Proficient	404	Proficient	406
22.0	Proficient	406	Proficient	407
22.5	Proficient	407	Proficient	408
23.0	Proficient	408	Proficient	409
23.5	Proficient	409	Proficient	410

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RAW SCORE	READING		MATHEMATICS	
	Status	Scaled Score	Status	Scaled Score
24.0	Proficient	411	Proficient	411
24.5	Proficient	412	Proficient	412
25.0	Proficient	413	Proficient	414
25.5	Proficient	414	Proficient	415
26.0	Proficient	416	Proficient	416
26.5	Proficient	417	Proficient	417
27.0	Proficient	418	Proficient	418
27.5	Proficient	419	Proficient	419
28.0	Proficient	421	Proficient	420
28.5	Proficient	422	Proficient	421
29.0	Proficient	423	Proficient	422
29.5	Proficient	424	Proficient	424
30.0	Proficient	425	Accelerated	*425*
30.5	Proficient	427	Accelerated	426
31.0	Proficient	428	Accelerated	427
31.5	Accelerated	**429**	Accelerated	428
32.0	Accelerated	430	Accelerated	429
32.5	Accelerated	431	Accelerated	430
33.0	Accelerated	433	Accelerated	432
33.5	Accelerated	434	Accelerated	433
34.0	Accelerated	435	Accelerated	434
34.5	Accelerated	436	Accelerated	435
35.0	Accelerated	438	Accelerated	437
35.5	Accelerated	439	Accelerated	438
36.0	Accelerated	440	Accelerated	440
36.5	Accelerated	441	Accelerated	441
37.0	Accelerated	443	Accelerated	443
37.5	Accelerated	444	Advanced	*444*
38.0	Accelerated	445	Advanced	446
38.5	Accelerated	447	Advanced	448
39.0	Advanced	**448**	Advanced	449
39.5	Advanced	450	Advanced	451
40.0	Advanced	452	Advanced	454
40.5	Advanced	453	Advanced	456
41.0	Advanced	455	Advanced	458
41.5	Advanced	457	Advanced	461
42.0	Advanced	459	Advanced	464
42.5	Advanced	461	Advanced	467
43.0	Advanced	464	Advanced	471
43.5	Advanced	466	Advanced	476
44.0	Advanced	469	Advanced	481
44.5	Advanced	473	Advanced	489
45.0	Advanced	476	Advanced	499
45.5	Advanced	481	Advanced	516
46.0	Advanced	486	Advanced	546
46.5	Advanced	493		
47.0	Advanced	503		
47.5	Advanced	519		
48.0	Advanced	547		