Table 5: Normative Stringency and Classification Accuracy of Pooled Benchmarks for MAP Mathematics and Reading Tests

		Mathematics, ACT=22					Mathematics, ACT=24				
Grade	Term	Benchmark	SE	Pct	TPR	FPR	Benchmark	SE	Pct	TPR	FPR
5	Fall	217.31	0.04	65	0.67	0.19	221.33	0.04	74	0.63	0.15
5	Spring	225.58	0.04	61	0.70	0.16	229.74	0.04	70	0.67	0.14
6	Fall	225.30	0.04	68	0.70	0.15	229.63	0.04	79	0.68	0.13
6	Spring	232.34	0.03	66	0.72	0.14	236.82	0.03	76	0.68	0.11
7	Fall	232.20	0.03	71	0.72	0.13	236.84	0.03	81	0.68	0.10
7	Spring	238.06	0.03	70	0.73	0.13	242.85	0.03	79	0.70	0.10
8	Fall	238.00	0.03	74	0.73	0.13	242.96	0.03	83	0.70	0.10
8	Spring	242.73	0.04	74	0.73	0.13	247.83	0.04	81	0.70	0.10
9	Fall	242.72	0.04	76	0.73	0.13	247.99	0.04	84	0.69	0.10
9	Spring	246.35	0.04	74	0.73	0.13	251.76	0.04	83	0.70	0.10
		Reading, ACT=22					Reading, ACT=24				
Grade	Term	Benchmark	SE	Pct	TPR	FPR	Benchmark	SE	Pct	TPR	FPR
5	Fall	209.31	0.04	59	0.71	0.20	212.62	0.04	69	0.70	0.18
5	Spring	214.70	0.04	59	0.72	0.18	217.94	0.04	66	0.72	0.17
6	Fall	214.97	0.04	61	0.73	0.18	218.32	0.04	68	0.72	0.16
6	Spring	219.59	0.03	61	0.74	0.17	222.87	0.03	69	0.73	0.15
7	Fall	219.83	0.03	64	0.74	0.17	223.21	0.03	71	0.73	0.15
7	Spring	223.73	0.03	65	0.75	0.16	227.04	0.03	72	0.73	0.13
8	Fall	223.88	0.03	67	0.75	0.16	227.31	0.03	73	0.73	0.14
8	Spring	227.10	0.03	67	0.75	0.16	230.46	0.03	74	0.73	0.14
9	Fall	227.14	0.04	67	0.74	0.17	230.61	0.04	75	0.73	0.16
9	Spring	229.72	0.04	69	0.74	0.17	233.11	0.04	75	0.72	0.15

Note: SE = Std. Error Pct = Percentile TPR = True Positive Rate FPR = False Positive Rate

How Do I Compare With My Peers? The student's observed score may be used to characterize his performance, in terms of a percentile, among his peers who are expected to meet or exceed the ACT college readiness benchmark of 24. Such percentile ranks can be helpful to the efforts to keeping the student on-track for college. Predicted MAP scores, $\hat{y}$, corresponding to selected percentile ranks for MAP benchmarks for reading at grades 5 through 9, for both the fall and spring terms, are given in Table 2. They are easily obtained from the equation

$$\hat{y} = \mu + \sigma \times \Phi^{-1}(P/100) \ ,$$

where P is the desired percentile, under the assumption that scores are normally distributed with cumulative function $\Phi(\mu, \sigma^2)$ with benchmark μ and variance σ^2. Tables 6, 7, 8, and 9 in Appendix B give the results for mathematics and reading, assuming an ACT of 22 and 24, respectively. The predicted standard deviations reported in these tables are based on conditional distributions given by Equation 5 in Appendix A.