

## SAT Performance

This is the first of two related Tasks. In these Tasks you will investigate four questions about students' SAT scores at one high school.

1. What is the mean SAT-Math score at this high school?
2. How do these students' SAT Math scores stack up against the rest of the state?
3. Is there a significant difference between Verbal and Math scores for these students?
4. Nationally males tend to have higher Math scores than females. Is that true at this high school, too?

You have a copy of data from the SAT Score Roster sent to the high school by the College Board. It shows gender, Verbal scores, and Math scores, for 303 students in a recent graduating class.

*NOTE: You will not use all of these data, just a sample of 20 – 30 students.*

Your current assignment: investigate the first two questions posed above.

- Draw a sample of these students, carefully explaining your procedure.
- Use your sample to create a 95% confidence interval for the mean SAT-I Math score at this high school.
- Based on your confidence interval, compare the performance of these students with the statewide mean Math score of 503.
- Prepare a written report that includes complete demonstrations of the statistical procedures you use and your conclusions (in context, of course).

**Important:** Save the Score Roster and your sample. You'll be using them to answer the other two questions in the next Investigative Task – coming soon to a Statistics class near you.

SAT Data

Gender	Verbal	Math
F	450	450
F	640	540
M	590	570
M	400	400
M	600	590
M	610	610
F	630	610
M	660	570
F	660	720
F	590	640
M	580	650
F	500	540
F	480	360
M	530	520
M	690	640
M	480	570
F	450	420
M	650	650
F	620	600
M	630	740
M	490	520
M	560	620
F	710	720
F	360	390
F	590	530
M	520	630
M	510	600
F	630	630
F	740	760
M	680	690
F	660	700
F	690	750
M	540	560
F	670	520
M	580	720
F	600	560
F	600	560
F	710	640
M	640	650
M	490	590
M	650	680
M	580	710
M	710	730
M	740	700
M	510	560
F	650	760
F	580	660
F	600	640
F	670	700
F	640	670
F	370	460
F	620	470

Gender	Verbal	Math
M	680	650
F	620	620
M	590	690
M	430	540
F	680	740
M	650	650
F	650	680
M	660	700
M	640	680
M	460	680
M	430	480
M	460	600
M	800	720
M	310	530
F	510	550
F	770	700
M	750	670
M	580	630
M	410	390
F	430	400
M	630	680
F	630	630
M	480	550
F	420	430
M	800	650
M	650	500
M	580	690
F	560	540
M	670	760
M	610	740
M	510	610
M	560	530
F	770	690
F	530	430
M	650	740
F	730	790
F	690	640
F	610	510
F	710	680
F	730	590
M	450	570
F	400	410
M	700	620
M	580	660
M	600	670
F	630	690
F	600	640
F	630	700
M	690	740
F	630	560
F	480	500
F	680	630

Gender	Verbal	Math
F	650	680
M	460	410
M	560	560
M	610	760
M	620	650
F	590	640
F	390	440
M	510	530
M	450	440
F	520	690
F	470	410
M	690	620
M	510	540
F	770	710
F	520	570
F	550	600
F	680	580
M	740	700
F	660	690
F	740	640
F	730	680
F	560	630
F	570	530
F	560	540
F	670	520
M	650	710
F	690	700
M	610	740
F	500	650
M	560	700
M	640	650
M	430	490
F	700	570
M	620	670
F	610	640
M	580	640
F	730	570
F	520	530
M	540	580
M	640	610
M	680	720
M	580	490
F	640	630
F	700	650
M	600	630
F	540	510
F	480	540
F	710	700
M	650	780
F	640	570
F	370	410
M	710	700

Gender	Verbal	Math
F	630	660
F	590	580
M	750	800
M	600	690
M	610	550
F	490	800
F	680	610
M	520	540
F	680	660
M	650	700
M	600	560
F	550	560
M	490	390
F	530	530
M	560	560
F	630	590
F	510	520
M	710	740
F	550	560
M	690	620
M	700	700
M	540	620
F	280	500
M	710	760
F	640	710
M	600	590
M	610	670
M	680	670
F	520	470
F	730	740
M	510	680
F	620	740
F	530	500
M	550	680
M	590	670
M	620	640
M	640	570
F	490	530
M	530	580
M	560	600
F	710	700
M	480	530
F	490	490
M	460	560
F	630	520
M	510	520
M	600	610
F	550	570
F	670	580
M	560	520
F	600	600
F	650	530
F	630	610
F	440	470

Gender	Verbal	Math
M	650	560
M	690	670
M	360	290
M	510	510
M	610	570
M	700	740
F	540	490
M	600	670
F	610	710
F	700	570
F	490	560
M	390	630
M	580	530
M	760	760
M	730	760
F	590	620
M	640	740
F	610	620
M	760	700
M	570	630
M	700	740
F	630	630
F	530	670
F	490	700
M	600	660
M	580	760
M	710	700
F	600	450
F	560	590
M	570	690
F	630	610
F	640	570
M	550	600
M	690	670
F	530	490
F	580	640
F	550	560
M	690	740
F	420	410
F	690	720
F	560	570
F	560	560
F	490	510
M	430	570
M	690	670
F	600	550
M	700	630
F	630	710
M	620	610
F	550	550
M	600	670
M	450	610
M	690	680
M	590	600

Gender	Verbal	Math
M	760	580
F	650	600
M	540	630
M	580	530
M	670	650
F	650	680
M	660	660
M	500	580
F	610	510
F	580	500
F	570	620
M	690	620
M	570	540
M	600	670
F	540	670
M	640	760
F	680	600
M	730	670
M	610	550
M	500	550
M	580	630
M	620	710
F	570	630
F	690	610
F	610	570
F	630	570
F	540	660
F	760	690
M	470	470
F	340	450
F	480	500
M	690	760
M	620	610
F	710	630
M	440	740
M	400	710
M	650	740
M	600	660
M	700	570