

Clancy	58.2	73.4	73.1	64.4	72.7	89.2	43.9	76.3	76.4	78.9	69.4	72.9
Rowling	85.3	84.3	79.5	82.5	80.2	84.6	79.2	70.9	78.6	86.2	74.0	83.7
Tolstoy	69.4	64.2	71.4	71.6	68.5	51.9	72.2	74.4	52.8	58.4	65.4	73.6

7. Car Crash Measurements Use the following listed chest deceleration measurements (in g, where g is the force of gravity) from samples of small, midsize, and large cars. (These values are from Data Set 13 in Appendix B.) Use a 0.05 significance level to test the claim that the different size categories have the same median chest deceleration in the standard crash test. Do the data suggest that larger cars are safer?

Small	44	39	37	54	39	44	42
Midsize	36	53	43	42	52	49	41
Large	32	45	41	38	37	38	33

8. Highway Fuel Consumption Listed below are highway fuel consumption amounts (mi/gal) for cars categorized by the sizes of small, midsize, and large (from Data Set 14 in Appendix B). Using a 0.05 significance level, test the claim that the three size categories have the same median highway fuel consumption. Does the size of a car appear to affect highway fuel consumption?

Small	28	26	23	24	26	24	25
Midsize	28	31	26	30	28	29	31
Large	34	36	28	40	33	35	26

Appendix B Data Sets. In Exercises 9–12, use the Kruskal-Wallis test with the data set from Appendix B.

9. IQ and Lead Exposure Data Set 5 in Appendix B lists performance IQ scores for random samples of subjects with blood lead levels categorized as low, medium, and high. Use a 0.01 significance level to test the claim that subjects in those categories have the same median performance IQ score. Does lead exposure appear to have an adverse effect?

10. Passive and Active Smoke Data Set 9 in Appendix B lists measured cotinine levels from a sample of subjects who smoke, another sample of subjects who do not smoke but are exposed to environmental tobacco smoke, and a third sample of subjects who do not smoke and are not exposed to environmental tobacco smoke. Cotinine is produced when the body absorbs nicotine. Use a 0.01 significance level to test the claim that the three samples are from populations with the same median. What do the results suggest about a smoker who argues that he absorbs as much nicotine as people who don't smoke?

11. Nicotine in Cigarettes Refer to Data Set 10 in Appendix B and use the amounts of nicotine (mg per cigarette) in the king-size cigarettes, the 100-mm menthol cigarettes, and the 100-mm nonmenthol cigarettes. The king-size cigarettes are nonfiltered, nonmenthol, and nonlight. The 100-mm menthol cigarettes are filtered and nonlight. The 100-mm nonmenthol cigarettes are filtered and nonlight. Use a 0.05 significance level to test the claim that the three categories of cigarettes yield the same median amount of nicotine. Given that only the king-size cigarettes are not filtered, do the filters appear to make a difference?

12. Car Crash Measurements Refer to Data Set 13 in Appendix B and use the pelvis deceleration measurements for small cars, midsize cars, and large cars. Use a 0.05 significance level to test the claim that the different size categories have the same median pelvis deceleration in the standard crash test. Do the data suggest that larger cars are safer?