1. A company wants to know when they raise their prices if they will lose customers. Therefore, they complete a satisfaction survey with new customers to see if new customers would drop the service with the price increase. At the normal price, satisfaction is 4.0 points with a standard deviation of 1.2 points. After the price increase, satisfaction scores are as follows: 3, 4, 3, 4, 2, 1, 5, 3, 2, and 3. Using the p<.05 level, is this a significant drop in price?

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| Assumptions:   1. DV scale = yes at least interval 2. Random selection = they could do that, but they likely didn’t, could also randomly assign 3. Normal = N < 30, so not sure.   Z-test | |
| Sample  Res: new price  Null: new price | Population  < old price satisfaction  > = old price satisfaction |
| M = 3.0  N = 10 | U = 4.0  O = 1.2,  Om = .38 |
| Less than test with p<.05 = -1.64 | |
| -2.64 | |
| Reject! | |

1. 50 dogs were tested in a new dog-training program. They had an average obedience score of 5.6 after the dog-training program. The old dog-training program had an average score of 3.4 and standard deviation of 2.5 before they switched to the new program. Is there a significant increase in their program using the .01 significance level?

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| Assumptions:   1. DV scale = yes likely a ratio scale 2. Random selection = probably couldn’t select, but could randomly assign to new dog training program 3. Normal = N > 30, so yes.   Z-test | |
| Sample  Res: new program  Null: new program | Population  > old program  < = old program |
| M = 5.6  N = 50 | U = 3.4  O = 2.5  Om = .35 |
| Greater than test with p<.01 = +2.33 | |
| 6.22 | |
| Reject! | |

1. Netflix incorporated a new rating system to see how accurately they could predict your rating for new shows. They normally are within 1 point of your score with a standard deviation of 1.35. The new system is within .5 points of your score, after testing on 100 people. Is this a significant difference in scoring using the p<.05 significance level?

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| Assumptions:   1. DV scale = yes likely an interval scale 2. Random selection = could randomly select 3. Normal = N > 30, so yes.   Z-test | |
| Sample  Res: new rating system  Null: new rating system | Population  /= old rating system  = old rating system |
| M = .5  N = 100 | U = 1  O = 1.35  Om = .14 |
| Difference test with p<.05 = +- 1.96 | |
| -3.70 | |
| Reject! | |

1. 10 students were tested on a new language learning program: 75, 60, 90, 95, 70, 80, 60, 65, 70, and 75. The normal score is 85% with a standard deviation of 14.2%. Is the student’s score statistically lower than normal using the p<.01 significance level?

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| Assumptions:   1. DV scale = yes likely a ratio scale 2. Random selection = probably couldn’t select, but could randomly assign to new language program 3. Normal = N < 30, so not sure.   Z-test | |
| Sample  Res: new program  Null: new program | Population  < old program  > = old program |
| M = 74  N = 10 | U = 85  O = 14.2  Om = 4.49 |
| Less than test with p<.01 = -2.33 | |
| -2.44 | |
| Reject! | |