

1. A random sample of 64 engineers in company A produces a mean salary of \$84,000 with a standard deviation of \$7,000; and a random sample of 36 engineers in company B produces a mean salary of \$90,000 with a standard deviation of \$6,000. Can we conclude that company B pays its engineers more than company A? Use an $\alpha = 0.05$ level of significance.
2. To compare two programs for training industrial workers to perform a skilled job, 20 workers are included in an experiment. Of these 10 are selected at random to be trained by method 1; the remaining 10 workers are to be trained by method 2. After completion of training, all the workers are subjected to time-and-motion test that records the speed of performance of a skilled job. The following data are obtained (time in minutes) :

Method 1	Method 2
15	23
20	31
11	13
23	19
16	23
21	17
18	28
16	26
27	25
24	28

Can you conclude from the data that the mean job time is significantly less after training with method 1 than after training with method 2? Use an $\alpha = 0.05$ level of significance.

3. Measurements of the left- and right-hand gripping strengths of 10 left-handed writers are recorded.

Person	Left hand	Right hand
1	140	138
2	90	87
3	125	110
4	130	132
5	95	96
6	121	120
7	85	86
8	97	90
9	131	129
10	110	100

Do the data provide strong evidence that people who write with the left hand have a greater gripping strength in the left hand than they do in the right hand?