
HOMEWORK: TWO-SAMPLE HYPOTHESIS TESTING
TWO-SAMPLE T-TESTS

Do these problems by hand (with pencil and calculator) and using MS Excel.

PROBLEM 1:

Who lives longer, married or unmarried men? Test at $\alpha = .01$

Single Men

$$\bar{X}_1 = 72.5 \text{ years}$$

$$S_1 = 7.0 \text{ years}$$

$$n_1 = 14$$

Married Men

$$\bar{X}_2 = 74.5 \text{ years}$$

$$S_2 = 8.0 \text{ years}$$

$$n_2 = 16$$

PROBLEM 2:

Who does better on the CPA EXAM? Test at .05 significance level

College A: Average score = 70.5; standard deviation = 15.0; n = 12

College B: Average score = 66.5; standard deviation = 10.0; n = 18

PROBLEM 3:

Who misses work more often: male managers or female managers? Test at .05 significance level

Female Managers: Average number of times absent from work = 10.9 days;
standard deviation = 2.4 days; n = 10

Male Managers: Average number of times absent from work = 9.9 days;
standard deviation = 1.8 days; n = 20

PROBLEM 4:

Which yogurt ice cream has less fat? Test at .05 significance level

Company A:

Average amount of fat = 10.6 milligrams; standard deviation = 2.6 milligrams; n = 13

Company B:

Average amount of fat = 10.2 milligrams; standard deviation = 2.4 milligrams; n = 18

PROBLEM 5:

Which approach to treating brain cancer works best ? Test at .05 significance level

Approach A: lived on average and additional = 6.8 years; standard deviation = 1.6 years;
n = 14 patients

Approach B: lived on average and additional = 5.4 years; standard deviation = 2.4 years;
n = 12 patients

PROBLEM 6:

Who makes more money at Company X ? Test at .05 significance level

Men: Average gross income = \$48,500; standard deviation = \$1,000; n = 18 employees

Women: Average gross income = \$43,600; standard deviation = \$2,000; n = 11 employees

PROBLEM 7:

Who makes a better motor ? Test at .05 significance level

Company ABC: Average life= 14.50 years; standard deviation = 1.50 years; n = 10

Company QQQ: Average life = 13.60 years; standard deviation = 2.10 years; n = 11