

HOMWORK: TWO-SAMPLE HYPOTHESIS TESTING
TWO-SAMPLE Z-TEST

PROBLEM 1:

Typing Speed on a pc. Who types faster, Men or Women?

	<u>Men</u>	<u>Women</u>
\bar{X}	65 wpm	68 wpm
s	10 wpm	14 wpm
n	50	60

Test at $\alpha = .01$.

PROBLEM 2:

Take-Home Pay. Who earns more: Married or unmarried people?

	<u>Married</u>	<u>Not Married</u>
\bar{X}	\$639.60	\$658.20
s	\$60	\$90
n	40	60

Test at $\alpha = .04$

PROBLEM 3:

Are the machine tools manufactured by Company X and Y different with regard to how long they last?

	<u>Company X</u>	<u>Company Y</u>	
\bar{X}	16.2 weeks	15.9 weeks	
s	.2 weeks	.2 weeks	Test at $\alpha = .08$
n	40	40	

PROBLEM 4:

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

<u>Single women</u>	<u>Married Women</u>
$\bar{X}_1 = 78.5 \text{ years}$	$\bar{X}_2 = 77.0 \text{ years}$
$S_1 = 14.0 \text{ years}$	$S_2 = 16.0 \text{ years}$
$n_1 = 140$	$n_2 = 160$

PROBLEM 5:

Who misses work more often at the ABC Company: Smokers or non-smokers? Test at .05 significance level.

Smokers: Average number of days absent = 14.7; standard deviation = 5.0; n = 44
Non-Smokers: Average number of days absent = 8.3; standard deviation = 4.0; n = 60

PROBLEM 6:

Who has the higher hourly wage at the ABC Company: Men or Women? Test at .05 significance level.

Men: Average hourly wage = \$12.50; standard deviation = \$1.60; n = 80
Women: Average hourly wage = \$11.40; standard deviation = \$3.20; n = 120

PROBLEM 7:

Who has a longer life span? Test at .05 significance level.

Non-drug user: Average life span = 82.5 years; standard deviation = 12 years; n = 120
Drug user: Average life span = 72.5 years; standard deviation = 12.5 years; n = 50

PROBLEM 8:

Who earns more? Test at .01 significance level.

High school graduates: Average salary = \$35,000; standard deviation = \$15,000; n = 150
High school dropouts: Average salary = \$26,000; standard deviation = \$10,000; n = 100