

# One Way ANOVA Worksheet

## Analysis of Variance

1. **Fast Food Service Time**-The table below lists the service times for fast-food restaurants at the Local Mall and measured from the time you order to the time you receive your food. Use the **5% level of significance** to test the claim that the samples come from populations with the same mean.

			Local Mall				
Tommy's Burgers		Shanghai Dumplings	Mario's Tacos		Luigi's Pizza		AZTECA Tacos
108		116	287		238		253
137		131	189		212		185
196		147	202		188		264
208		128	168		206		112
282		125	242		176		189
106		152	250		240		173
110		142	209		180		168
212		160	196		241		239

2. **Lead and Performance IQ Scores in Children**- IQ scores from three different blood levels are listed below. Use the **5% level of significance** to test the claim that the samples come from populations with the same mean.

	Blood		
Low Lead Level	Medium Lead Level	High Lead Level	
85	78	93	
149	101	108	
111	97	100	
79	92	78	
112	107	97	
90	100	95	
99	80	79	
104	77	78	
129	90	97	
92	108	86	

3. **Flight Departure Delay Times**- The table below lists the delay times (minutes) of a popular airline for flights headed to Las Vegas. Negative values correspond to flights that departed early. Use the **5% level of significance** to test the claim that the samples come from populations with the same mean.

	Popular Airline		
Flight 1	Flight 18	Flight 23	Flight 37
-3	18	18	12
-2	-3	60	-8
-1	-5	148	-6
2	-1	-10	0
0	-4	-5	15
-1	63	-6	33
-2	0	48	-15
-3	2	15	-4

4. **Arsenic in Rice**- The tables below list the amount of Arsenic in Brown Rice from different states. The amounts are in micrograms of arsenic and all samples are of the same “serving sizes”. The data is from the Food and Drug Administration. Use the **5% level of significance** to test the claim that the samples come from populations with the same mean.

	State	
Arkansas	California	Texas
4.8	1.5	5.6
4.9	3.7	5.8
5	4	6.6
5.4	4.5	6.9
5.4	4.9	6.9
5.4	5.1	6.9
5.6	5.3	7.1
5.6	5.4	7.3
5.6	5.4	7.5
5.9	5.5	7.6
6	5.6	7.7
6.1	5.6	7.7

5. **Cholesterol Medication**- A Pharmaceutical Company wants to test the effectiveness of a new medication. The table below represents the cholesterol levels with various doses of the new cholesterol medication. Use the **5% level of significance** to test the claim that the samples come from populations with the same mean.

	Dosage		
Group 1	Group 2	Group 3	
<i>0 mg</i>	<i>50 mg</i>	<i>100 mg</i>	
210	210	180	
240	240	210	
270	240	210	
270	270	210	
300	270	240	