

The table shows a sample of Merrill's experiment. The results of 5 mice from each group are shown below.

subject	group	w1r1	w1r2	w1r3	w2r1	w2r2	w2r3	w3r1	w3r2	w3r3	w4r1	w4r2	w4r3	meanw1	meanw2	meanw3	meanw4
1	a	1,068	534	352	982	170	492	492	926	273	110	592	632	651	548	564	445
2	a	1,017	568	529	715	608	89	383	57	166	89	319	251	705	471	202	220
3	a	1,156	720	60	620	572	239	795	83	136	660	230	152	645	477	338	347
4	a	805	205	497	209	396	600	106	419	485	369	561	52	502	402	337	327
5	a	456	245	1,160	401	533	828	589	422	319	442	389	462	620	587	443	431
25	b	480	786	409	220	440	834	311	146	84	139	103	62	558	498	180	101
26	b	828	252	677	637	379	302	454	117	194	163	204	119	586	439	255	162
27	b	642	399	604	12	343	418	129	266	228	102	171	183	548	258	208	152
28	b	653	465	686	749	497	251	214	252	177	164	154	141	601	499	214	153
29	b	229	1,126	442	258	766	533	275	115	244	158	100	139	599	519	211	132
49	c	757	532	463	1,060	806	679	1,523	1,207	1,182	1,973	1,594	1,622	584	848	1,304	1,730
50	c	610	561	584	1,302	807	906	1,717	1,277	1,346	2,052	1,852	1,699	585	1,005	1,447	1,868
51	c	877	440	495	674	1,045	943	1,220	1,183	1,287	1,711	1,661	1,358	604	887	1,230	1,577
52	c	511	664	398	1,127	1,110	962	1,512	1,059	1,234	1,600	1,806	1,781	524	1,066	1,268	1,729
53	c	262	379	400	822	1,040	900	1,426	1,032	1,089	2,149	1,613	1,786	347	921	1,182	1,849

Questions

- One way to compare two numbers is find the difference. For each subject, find the difference of "meanw4" and "meanw1".
- Write a sentence to explain what it means if the difference from question 1 is positive. What if the difference is negative?

3. For each subject, find the percent increase (or decrease) in the mean run time.
4. For each group, find the mean of the differences. Why did we find the mean of the differences? Would this be useful/helpful for us to draw conclusions about Merrill's experiment?