Math 150, Spring 2023
Jo Hardin
WU # 16
Tuesday, 3/28/23

Your Name: _____

Names of people you worked with: _____

1. Do you prefer the mountains or the beach?
2. Can you think of a scenario where censoring and survival time would not be independent?
3. Consider the chip melting data. Fill out the next two rows of Table 9.5 in your text.

Group 1 (milk chocolate) 35^+ 30 60^+ 45 25 55 30^+
Group 2 (white chocolate) 45^+ 35 48 64^+ 72 42 55^+ 43 62

time interval	n_j	number censored	d_j	d_{1j}	d_j/n_j	n_{1j}	n_{2j}	E_{1j}	V_{1j}
$[25, 30)$	16	0	1	1	1/16	7	9	7/16	0.246
$[30, 35)$	15	1	1	1	1/15	6	9	6/15	0.240
$[35, 42)$	13	1	1	0	1/13	4	9	4/13	0.213
$[42, 43)$	11	0	1	0	1/11	3	8	2/11	0.198
$[43, 45)$	10	0	1	0	1/10	3	7	3/10	0.210
$[45, 48)$	9	1	1	1	1/9	3	6	3/9	0.222
$[48, 55)$									
$[55, 62)$									
$[62, 72)$								0	0
$[72, 72)$								0	0

Solution:

2. Censoring is independent of the survival time if the distribution of censoring times tells you nothing about the distribution of survival. So the example would be if the censoring happened because of the survival. For example, if someone was really sick (and close to death) but dropped out of the study, then the act of censoring would tell you that the event time was soon.

   Informative censoring occurs when participants are lost to follow-up due to reasons related to the study.

3.

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$[25, 30)$	16	0	1	1	1/16	7	9	7/16	0.246
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$[42, 43)$	11	0	1	0	1/11	3	8	2/11	0.198
$[43, 45)$	10	0	1	0	1/10	3	7	3/10	0.210
$[45, 48)$	9	1	1	1	1/9	3	6	3/9	0.222
$[48, 55)$	7	0	1	0	1/7	2	5	2/7	0.204
$[55, 62)$	6	2	1	1	1/6	2	4	2/6	0.222
$[62, 72)$	3	1	1	0	1/3	0	3	0	0
$[72, 72)$	1	0	1	0	1/1	0	1	0	0