TABLES OF DAILY DEGREE-DAYS ABOVE OR BELOW ANY BASE TEMPERATURE

Agriculture
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ANY BASE TEMPERATURE[1]

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INTRODUCTION

The degree-day, a unit of departure from a base temperature, has several practical uses in the application of temperature data. This publication provides a set of tables that can be used for determining daily degree-days above or below any base temperature. The tables can be employed for computations in either Fahrenheit or Celsius (centigrade) scales.

Degree-days above a base temperature are ordinarily calculated by subtracting the base temperature from the mean temperature for each day. Negative differences are rejected. For example, a day with a mean temperature of 57° has 15 degree-days above 42, and a day with a mean temperature of 30° has no degree-days above 42. Conversely, a day with a mean temperature of 50° has 15 degree-days *below* 65, and a day with a mean temperature of 80° has no degree-days below 65. To obtain the degree-days for a month or a season, add the daily values of degree-days. Long-term averages can be determined by using data for a number of years.

At most locations only the maximum and minimum daily temperatures are available, so they are used in computing the mean temperature. On the average the result is within a fraction of a degree of the mean that would be obtained using hourly readings (Arnold 1960).

Degree-day data is useful for estimating when crops will mature. It is assumed that each crop in a given location needs a specific number of "growing degree-days" or "heat units." The base temperature used depends on the heat requirements of the crop. For example, in southwestern Ontario the early pea crop is ready for harvest when about 1250 degree-days above 40° F have accumulated. Some other suggested bases are 32, 36, 42, 50, and 55° F (Holmes and Robertson 1959). The higher bases are used for heat-loving crops such as corn and tomatoes. Where the Celsius temperature scale is employed, 10° C is often used as a base (World Meteorological Organization 1963). The most common base used in computing growing degree-day data in North America is 42° F.

Degree-day data is also used to compute heating and fuel requirements. The amount of heat needed to maintain a particular indoor temperature is proportional to the degree-days below a certain base temperature. When the required indoor temperature is about 70° F, the base used to compute the "heating degree-days" is usually 65° F. For example, the fuel consumption in a month that has 1200

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degree-days below 65° F would be approximately double the fuel consumption in a month that has 600 degree-days. Bases of 55° F and 45° F are used for computing "industrial degree-days" for factories and storage buildings, where temperatures are 10° or 20° F lower than in dwellings (American Society of Heating, Refrigerating and Air-Conditioning Engineers 1962). The 45° F base is sometimes also used for greenhouses.

In studies of freezing and thawing of soil and ice, degree-day data is often computed above 32° F for thawing degree-days, and below 32° F for freezing degree-days (Thompson 1963).

Graphically, a degree-day value is an approximation of the area between the temperature curve and the base temperature. For example, if the maximum is 60° F and the minimum 50°F, the number of degree-days above 42° is $\frac{60 + 50}{2} - 42 = 13$.
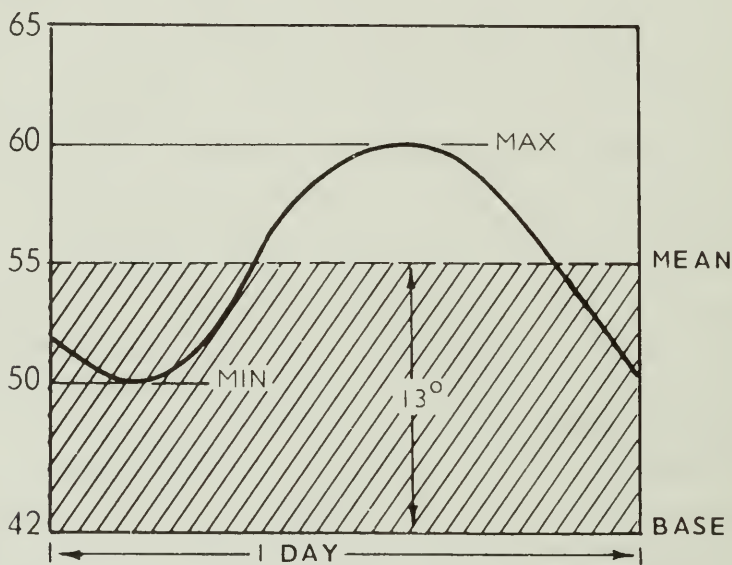
Figure 1. A rectangle showing 13 degree-days above 42°.

This is the area of the rectangle 13 degrees high and 1 day long in Figure 1; therefore, the term degree-day. Similarly, the rectangle for degree-days below 65° is 1 day long and $65 - \frac{60 + 50}{2} = 10$ degrees high (Figure 2). In each case the rectangular area is almost the same as the area between the temperature curve and the base. The number of degree-days above 55° would be $\frac{60 + 50}{2} - 55 = 0$ (Figure 3). However, there is clearly some area above 55° under the temperature curve, and there will be some growth in a crop that responds to temperatures above 55° F. Similarly, these computations give 0 degree-days below 55° on such a day, but some fuel would be consumed in a building in which the furnace began operating when the outside temperature dropped below 55° F.

Several methods have been suggested to solve the problem that occurs when the base temperature is between the maximum and minimum temperatures (Arnold

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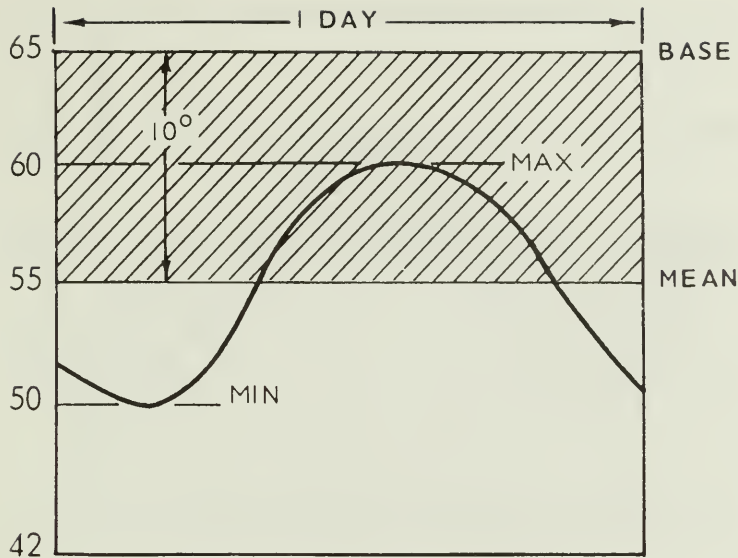
Figure 2. A rectangle showing 10 degree-days below 65°.
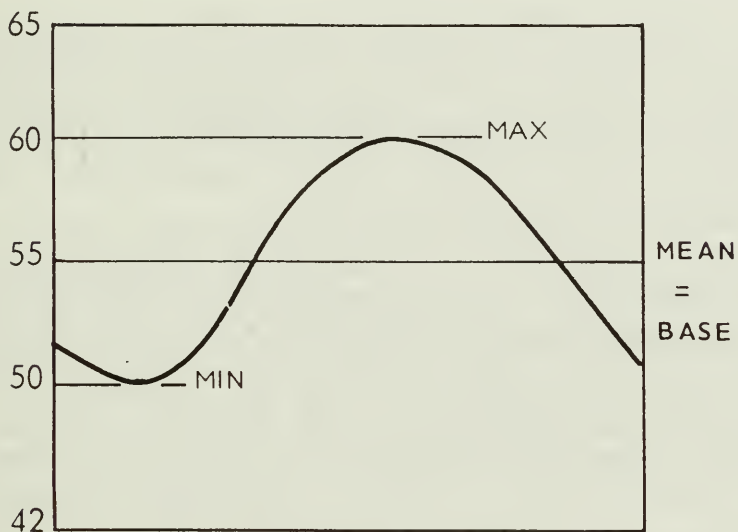
Figure 3. The mean temperature method: 0 degree-days above 55°, 0 degree-days below 55°.

1960). One of the simplest solutions was proposed by Lindsey and Newman (1956). Using their method, the number of degree-days above 55° is about 1.3 when the maximum is 60° and the minimum 50°. This is the area of the shaded triangle above 55° in Figure 4. There are also 1.3 degree-days below 55° F in this example.

Lindsey and Newman (1956) and Arnold (1960) pointed out that by changing the table headings a single set of degree-day tables can be used to compute degree-days above any base. After similar substitutions, the same set of tables can be used to compute degree-days below any base.

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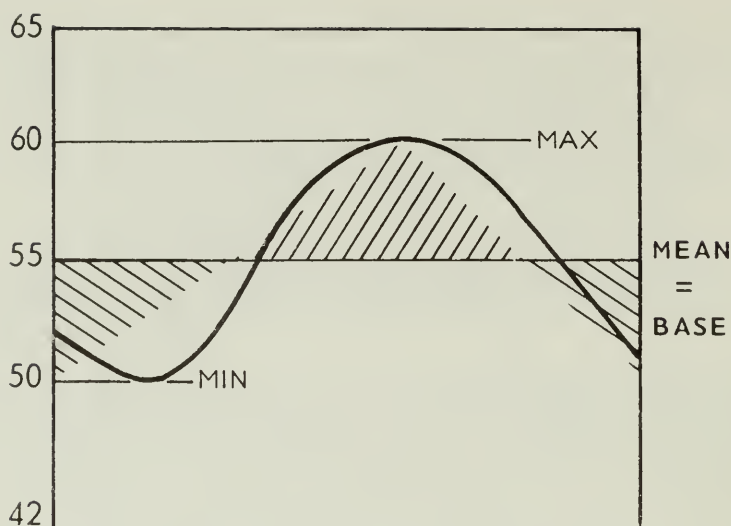
Figure 4. The Lindsey and Newman method: 1.25 degree-days above 55°, 1.25 degree-days below 55°.

Given the maximum and minimum temperatures in whole degrees for any day, Tables 5A–L and 6A–L can be used to determine to one decimal place the degree-days above or below any base temperature for that day. For the common base temperatures, degree-day values can be found in the tables for most temperatures that occur in temperate latitudes.

Tables 5A–L and 6A–L can be employed directly to find degree-days above 0°. Take the X departure as the maximum and the Y departure as the minimum temperature. For example, using Table 5B, when the maximum for the day is 15° C and the minimum 6° C, the number of Celsius degree-days above freezing is 10.5. If the maximum is 8° and the minimum −5°, the degree-day value of 2.5 is found in Table 5A. If the maximum and minimum were both below 0° there would be no degree-days. Whenever the base is between the maximum and minimum, that is, when X is positive but Y is negative, the degree-day values shown are based on the Lindsey and Newman triangle method. In all other cases the method of Figure 1 was used in computing the values in the tables, but calculating the degree-days using the shaded area shown in Figure 5 would give the same result.

ADAPTING THE TABLES FOR A PARTICULAR USE

Tables 1 and 2 are short versions of Tables 3 to 6. Headings are included for several bases. For degree-days above 42, Table 1 gives values for maximum temperatures of 42°, 54°, 66°, ... and minimum temperatures of 6°, 18°, 30°, 42°, ... For example, there are 1.5 degree-days above 42° when the maximum is 54° and the minimum is 6°, and 30.0 degree-days above 42° when the maximum is 78° and the minimum is 66°.

When the maximum is 53° and the minimum is 29°, there are 24.0 degree-days below 65° (Table 2). In tables of degree-days *above* a base, the headings
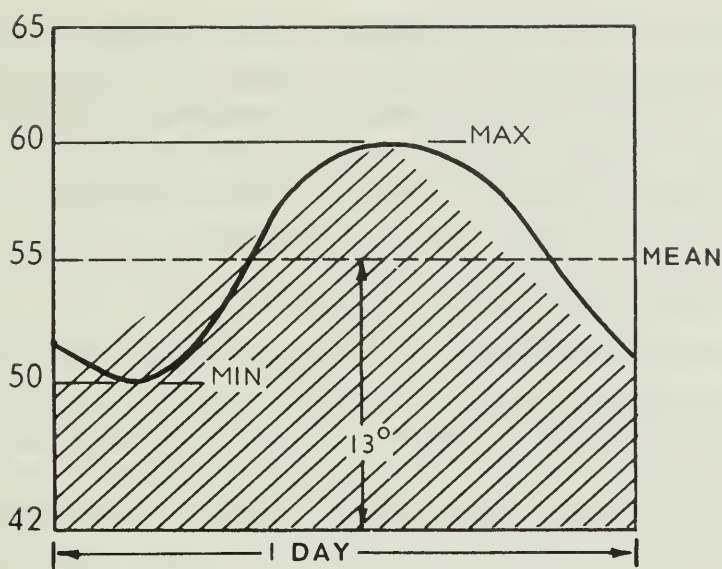
Figure 5. The shaded portion has the same area as the shaded rectangle in Figure 1.

for maximum temperatures are at the top and increase toward the right, and the headings for the minimum are at the left and decrease from top to bottom. Conversely, in tables of degree-days *below* a base, the minima are at the top and decrease from left to right, and the maxima increase from top to bottom down the left side.

Often only one particular base temperature is of interest. Study Tables 1 and 2, and then adapt the main tables for your own needs. Enter, preferably in color, the maximum and minimum temperature headings required for the base you have chosen (see examples, Tables 3 and 4). To use one set of tables for two bases or for degree-days both above and below one base, enter the second set of headings along the right side and along the bottom of the tables (see example, Table 3). To determine degree-days routinely for several base temperatures, use separate sets of the tables for each one or two bases.

There is no need to enter the table headings on those pages that will not be used in the work. For example, for degree-days above 42° F, only parts A to F of Tables 5 and 6 are needed in most cases, and for most degree-day determinations in degrees C only Tables 5A to 5D are needed.

To determine the headings required for adapting the main tables for use with a given base, refer to the abbreviated tables and to the headings printed on the main tables and labeled X, at the top, and Y, at the side. For example, the top left degree-day value in Table 5B is 12.0, with X = 12 and Y = 12. Table 1 shows that the corresponding headings for degree-days above 42° are maximum = 54 and minimum = 54. Then the required headings for Table 5B are maximum temperatures, 54, 55, 56, . . . , increasing from left to right across the top, and minimum temperatures decreasing down the left (see example, Table 4). In Tables 5A–H, the first 12 heading entries on the left are always the same as the 12 entries in the top heading from right to left.

Once you have made the first one or two entries in both the top and the side headings on a page, the rest are easy. For example, if you start a heading 65, 64, complete it by entering descending consecutive numbers: 63, 62, 61, 60, ... Each alphabetical section of Table 6 is an extension of the bottom of the corresponding alphabetical section of Table 5, so the top heading in 6B, for instance, is the same as in 5B, and the side heading of 6B is a continuation of that of 5B. When adapted for degree-days above 42, the side heading in 5B is from 65 to 28 and the side heading in 6B starts from the top with 27, 26, 25, ...

For degree-days above a base, each maximum entry in the heading must equal the base temperature plus X, and each minimum must equal the base temperature plus Y. Use these relationships to adapt the tables for degree-days above bases other than those shown in Table 1. For example, in Tables 5A and 6A, the values of X are 0, 1, 2, 3, ... The corresponding maximum temperature headings for degree-days above 10 would be 10, 11, 12, 13, . . . , that is, base plus X. In preparing the tables to compute degree-days *below* a base temperature not shown in Table 2, use: maximum = base − Y, and minimum = base − X.

USING THE TABLES

The use of the tables for determining degree-days above or below a base for which they have been adapted is quite simple. For example, in Table 3, there are 11.5 degree-days below 65 when the maximum temperature for the day is 63° and the minimum is 44°. Similarly in Table 4, there are 14.0 degree-days above 42° when the maximum is 64° and the minimum is 48°. As mentioned previously, the tables can be used with the original headings to determine degree-days above 0°. If degree-hours above a base are required, multiply degree-days by 24.

It is considerably faster and more accurate to use the tables than to calculate degree-days by hand, particularly when the base temperature is between the maximum and minimum for the day and the Lindsey and Newman method is to be employed.

The tables can be used to determine the mean of two numbers with the same sign. For example (Table 6H), the mean of X = 94 and Y = 45 is 69.5 and it also follows from this that the mean of −94 and −45 is −69.5. However, the tables cannot be used to find the mean of numbers of opposite sign, for example the entry for X = 11 and Y = −9 is 3.0, which is not the mean of 11 and −9.

To determine different pairs of numbers of the same sign that yield the same mean, follow the diagonal from upper left to lower right in the tables. For example, Table 5H shows that the mean of 89 and 75 is 82, and other pairs of numbers with the same mean include 84 and 80, 85 and 79, 95 and 69, ...

The tables can be used to compare results obtained by the Lindsey and Newman method with results by the mean temperature method. For example, a maximum of 64° and a minimum of 35° gives 8.3 degree-days above 42° (Table 4). To determine the degree-day values for other pairs of numbers with the same mean as 64 and 35, follow the diagonal up to the left. For positive Y values, such pairs of

numbers yield 7.5 degree-days. That is, the mean temperature method gives 7.5 degree-days for all pairs of temperatures with the same mean as 64 and 35, but the Lindsey and Newman method gives 8.3 degree-days for 64° and 35°. From Table 5A it can be seen that the mean temperature method would give no degree-days above zero when the temperatures were 11° and −11°, even though the temperature would be above zero for much of the day; the Lindsey and Newman method gives 2.8 degree-days for such a day.

The tables can be used in solving various other problems that have geometrical or arithmetical aspects similar to those of degree-days. For example, you can determine the cross-sectional areas of flow in V-bottomed channels, with or without parallel walls in the upper part of the cross section (Figure 6). If the depth from the water surface to the bottom of the V is X = 12 feet, and to the top of the V is Y = 7 feet, and the width is 10 feet, the area is 10 × 9.5 = 95 square feet (9.5 was obtained from Table 5B). If the depth from the surface to the bottom of the V is X = 3 feet, and the surface is 2 feet below the top of the V, that is, Y = −2 feet, the area is 10 × 0.9 = 9 square feet (using Table 5A). The channel bottom does not need to be V-shaped, as long as X, Y, and width values can be given for a hypothetical V-bottomed channel with about the same cross-sectional area as the actual channel.

ACKNOWLEDGMENTS
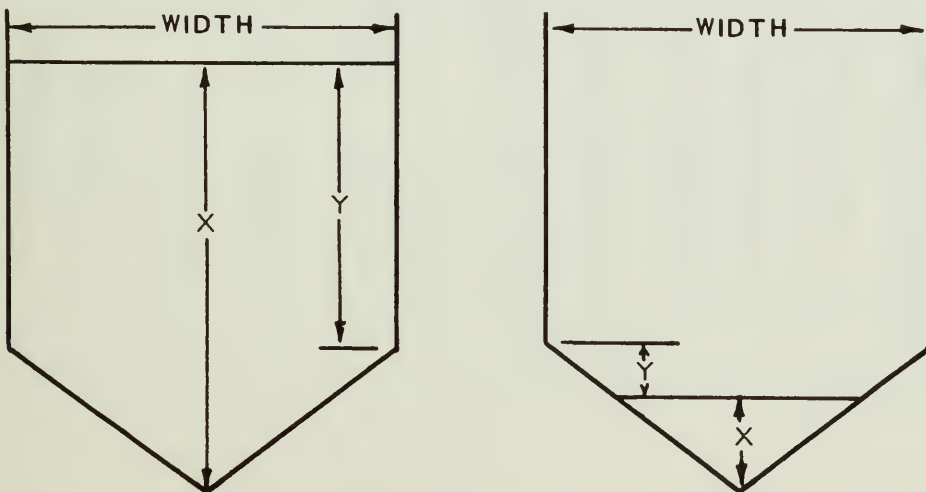
Figure 6. Area of channel cross section = width × entry from table.

REFERENCES

American Society of Heating, Refrigerating and Air-Conditioning Engineers. 1962. ASHRAE Guide and Data Book, 1962, Applications. New York, N.W. 864 p.

Arnold, Charles Y. 1960. Maximum–minimum temperatures as a basis for computing heat units. Proceedings of the American Society for Horticultural Science 76:682–692.

Holmes, R. M., and G. W. Robertson. 1959. Heat units and crop growth. Canada Department of Agriculture Publication 1042. 35 p.

Lindsey, A. A., and J. E. Newman. 1956. Use of official weather data in spring time -- temperature analysis of an Indiana phenological record. Ecology 37:812–823.

Thompson, H. A. 1963. Freezing and thawing indices in Northern Canada. National Research Council of Canada, Associate Committee on Soil and Snow Mechanics, Proceedings of the First Canadian Conference on Permafrost. Technical Memorandum No. 76, p. 18–36.

World Meteorological Organization. 1963. Guide to agricultural meteorological practices. Geneva, Switzerland.

Table 1. Selected Values of Degrees-days Above Base

BASE TEMPERATURE	MAXIMUM (=BASE+X)						
55	55	67	79	91	103	115	
50	50	62	74	86	98	110	122
42	42	54	66	78	90	102	114
40	40	52	64	76	88	100	112
36	36	48	60	72	84	96	108
32	32	44	56	68	80	92	104
X =	0	12	24	36	48	60	72

MINIMUM (=BASE+Y)						Y							
	122	114	112	108	104	72							72.0
115	110	102	100	96	92	60						60.0	66.0
103	98	90	88	84	80	48					48.0	54.0	60.0
91	86	78	76	72	68	36				36.0	42.0	48.0	54.0
79	74	66	64	60	56	24			24.0	30.0	36.0	42.0	48.0
67	62	54	52	48	44	12		12.0	18.0	24.0	30.0	36.0	42.0
55	50	42	40	36	32	0	0.0	6.0	12.0	18.0	24.0	30.0	
43	38	30	28	24	20	-12	0.0	3.0	8.0	13.5	19.2		
31	26	18	16	12	8	-24	0.0	2.0	6.0	10.8			
19	14	6	4	0	-4	-36	0.0	1.5	4.8				

Table 2. Selected Values of Degree-days Below Base

BASE TEMPERATURE   MINIMUM (=BASE−X)

BASE				MINIMUM (=BASE−X)					
32				32	20	8	−4	−16	−28
	45			45	33	21	9	−3	−15
		55		55	43	31	19	7	−5
			65	65	53	41	29	17	5
				X= 0	12	24	36	48	60

MAXIMUM (=BASE−Y)   Y

MAXIMUM (=BASE−Y)				Y	0	12	24	36	48	60
−28	−15	−5	5	60						60.0
−16	−3	7	17	48					48.0	54.0
−4	9	19	29	36				36.0	42.0	48.0
8	21	31	41	24			24.0	30.0	36.0	42.0
20	33	43	53	12		12.0	18.0	24.0	30.0	36.0
32	45	55	65	0	0.0	6.0	12.0	18.0	24.0	30.0
44	57	67	77	−12	0.0	3.0	8.0	13.5	19.2	
56	69	79	89	−24	0.0	2.0	6.0	10.8		
68	81	91	101	−36	0.0	1.5	4.8			

BASE TEMPERATURE   MINIMUM (=BASE−X)

BASE				MINIMUM (=BASE−X)					
32				−40	−52	−64			
	45			−27	−39	−51	−61		
		55		−17	−29	−41	−51	−61	
			65	−7	−19	−31	−41	−51	−61
				X= 72	84	96	106	116	126

MAXIMUM (=BASE−Y)   Y

MAXIMUM (=BASE−Y)				Y	72	84	96	106	116	126
			−61	126						126.0
		−61	−51	116					116.0	121.0
	−61	−51	−41	106				106.0	111.0	116.0
−64	−51	−41	−31	96			96.0	101.0	106.0	111.0
−52	−39	−29	−19	84		84.0	90.0	95.0	100.0	105.0
−40	−27	−17	−7	72	72.0	78.0	84.0	89.0	94.0	99.0
−28	−15	−5	5	60	66.0	72.0	78.0	83.0	88.0	
−16	−3	7	17	48	60.0	66.0	72.0	77.0		
−4	9	19	29	36	54.0	60.0	66.0			
8	21	31	41	24	48.0	54.0				
20	33	43	53	12	42.0					

Table 3. Example Showing 5B Adapted for Degree-days Below 65 and 32

Below 65

X		12	13	14	15	16	17	18	19	20	21	22	23	
MIN		53	52	51	50	49	48	47	46	45	44	43	42	
Y	MAX													
23	42												23.0	9
22	43											22.0	22.5	10
21	44										21.0	21.5	22.0	11
20	45									20.0	20.5	21.0	21.5	12
19	46								19.0	19.5	20.0	20.5	21.0	13
18	47							18.0	18.5	19.0	19.5	20.0	20.5	14
17	48						17.0	17.5	18.0	18.5	19.0	19.5	20.0	15
16	49					16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	16
15	50				15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	17
14	51			14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	18
13	52		13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	19
12	53	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	20
11	54	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	21
10	55	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	22
9	56	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	23
8	57	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	24
7	58	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	25
6	59	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	26
5	60	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	27
4	61	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	28
3	62	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	29
2	63	07.0	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	30
1	64	06.5	07.0	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	31
0	65	06.0	06.5	07.0	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	32
-1	66	05.5	06.0	06.5	07.0	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	33
-2	67	05.1	05.6	06.1	06.6	07.1	07.6	08.1	08.6	09.1	09.6	10.1	10.6	34
-3	68	04.8	05.3	05.8	06.3	06.7	07.2	07.7	08.2	08.7	09.2	09.7	10.2	35
-4	69	04.5	05.0	05.4	05.9	06.4	06.9	07.4	07.8	08.3	08.8	09.3	09.8	36
-5	70	04.2	04.7	05.2	05.6	06.1	06.6	07.0	07.5	08.0	08.5	09.0	09.4	37
-6	71	04.0	04.4	04.9	05.4	05.8	06.3	06.8	07.2	07.7	08.2	08.6	09.1	38
-7	72	03.8	04.2	04.7	05.1	05.6	06.0	06.5	06.9	07.4	07.9	08.3	08.8	39
-8	73	03.6	04.0	04.5	04.9	05.3	05.8	06.2	06.7	07.1	07.6	08.1	08.5	40
-9	74	03.4	03.8	04.3	04.7	05.1	05.6	06.0	06.4	06.9	07.4	07.8	08.3	41
-10	75	03.3	03.7	04.1	04.5	04.9	05.4	05.8	06.2	06.7	07.1	07.6	08.0	42
-11	76	03.1	03.5	03.9	04.3	04.7	05.2	05.6	06.0	06.5	06.9	07.3	07.8	43
-12	77	03.0	03.4	03.8	04.2	04.6	05.0	05.4	05.8	06.3	06.7	07.1	07.6	44
-13	78	02.9	03.3	03.6	04.0	04.4	04.8	05.2	05.6	06.1	06.5	06.9	07.3	45
-14	79	02.8	03.1	03.5	03.9	04.3	04.7	05.1	05.5	05.9	06.3	06.7	07.1	46
													MAX	
		20	19	18	17	16	15	14	13	12	11	10	9	
													MIN	

Below 32

12

Table 4. Example Showing 5B Adapted for Degree-days Above 42

Above 42

Y	MIN	12 54	13 55	14 56	15 57	16 58	17 59	18 60	19 61	20 62	21 63	22 64	23 65
23	65												23.0
22	64											22.0	22.5
21	63										21.0	21.5	22.0
20	62									20.0	20.5	21.0	21.5
19	61								19.0	19.5	20.0	20.5	21.0
18	60							18.0	18.5	19.0	19.5	20.0	20.5
17	59						17.0	17.5	18.0	18.5	19.0	19.5	20.0
16	58					16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5
15	57				15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0
14	56			14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5
13	55		13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0
12	54	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5
11	53	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0
10	52	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5
9	51	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0
8	50	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5
7	49	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0
6	48	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5
5	47	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0
4	46	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5
3	45	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0
2	44	07.0	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5
1	43	06.5	07.0	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0
0	42	06.0	06.5	07.0	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5
-1	41	05.5	06.0	06.5	07.0	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0
-2	40	05.1	05.6	06.1	06.6	07.1	07.6	08.1	08.6	09.1	09.6	10.1	10.6
-3	39	04.8	05.3	05.8	06.3	06.7	07.2	07.7	08.2	08.7	09.2	09.7	10.2
-4	38	04.5	05.0	05.4	05.9	06.4	06.9	07.4	07.8	08.3	08.8	09.3	09.8
-5	37	04.2	04.7	05.2	05.6	06.1	06.6	07.0	07.5	08.0	08.5	09.0	09.4
-6	36	04.0	04.4	04.9	05.4	05.8	06.3	06.8	07.2	07.7	08.2	08.6	09.1
-7	35	03.8	04.2	04.7	05.1	05.6	06.0	06.5	06.9	07.4	07.9	08.3	08.8
-8	34	03.6	04.0	04.5	04.9	05.3	05.8	06.2	06.7	07.1	07.6	08.1	08.5
-9	33	·03.4	03.8	04.3	04.7	05.1	05.6	06.0	06.4	06.9	07.4	07.8	08.3
-10	32	03.3	03.7	04.1	04.5	04.9	05.4	05.8	06.2	06.7	07.1	07.6	08.0
-11	31	03.1	03.5	03.9	04.3	04.7	05.2	05.6	06.0	06.5	06.9	07.3	07.8
-12	30	03.0	03.4	03.8	04.2	04.6	05.0	05.4	05.8	06.3	06.7	07.1	07.6
-13	29	02.9	03.3	03.6	04.0	04.4	04.8	05.2	05.6	06.1	06.5	06.9	07.3
-14	28	02.8	03.1	03.5	03.9	04.3	04.7	05.1	05.5	05.9	06.3	06.7	07.1

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Table 5A. Degree-days for Departures of 0 to 11 (X), and −24 to 11 (Y), from Base Temperature

X \ Y	0	1	2	3	4	5	6	7	8	9	10	11
11												11.0
10											10.0	10.5
9										09.0	09.5	10.0
8									08.0	08.5	09.0	09.5
7								07.0	07.5	08.0	08.5	09.0
6							06.0	06.5	07.0	07.5	08.0	08.5
5						05.0	05.5	06.0	06.5	07.0	07.5	08.0
4					04.0	04.5	05.0	05.5	06.0	06.5	07.0	07.5
3				03.0	03.5	04.0	04.5	05.0	05.5	06.0	06.5	07.0
2			02.0	02.5	03.0	03.5	04.0	04.5	05.0	05.5	06.0	06.5
1		01.0	01.5	02.0	02.5	03.0	03.5	04.0	04.5	05.0	05.5	06.0
0	00.0	00.5	01.0	01.5	02.0	02.5	03.0	03.5	04.0	04.5	05.0	05.5
−1	00.0	00.3	00.7	01.1	01.6	02.1	02.6	03.1	03.6	04.1	04.5	05.0
−2	00.0	00.2	00.5	00.9	01.3	01.8	02.3	02.7	03.2	03.7	04.2	04.7
−3	00.0	00.1	00.4	00.8	01.1	01.6	02.0	02.5	02.9	03.4	03.8	04.3
−4	00.0	00.1	00.3	00.6	01.0	01.4	01.8	02.2	02.7	03.1	03.6	04.0
−5	00.0	00.1	00.3	00.6	00.9	01.3	01.6	02.0	02.5	02.9	03.3	03.8
−6	00.0	00.1	00.3	00.5	00.8	01.1	01.5	01.9	02.3	02.7	03.1	03.6
−7	00.0	00.1	00.2	00.5	00.7	01.0	01.4	01.8	02.1	02.5	02.9	03.4
−8	00.0	00.1	00.2	00.4	00.7	01.0	01.3	01.6	02.0	02.4	02.8	03.2
−9	00.0	00.1	00.2	00.4	00.6	00.9	01.2	01.5	01.9	02.3	02.6	03.0
−10	00.0	00.0	00.2	00.3	00.6	00.8	01.1	01.4	01.8	02.1	02.5	02.9
−11	00.0	00.0	00.2	00.3	00.5	00.8	01.1	01.4	01.7	02.0	02.4	02.8
−12	00.0	00.0	00.1	00.3	00.5	00.7	01.0	01.3	01.6	01.9	02.3	02.6
−13	00.0	00.0	00.1	00.3	00.5	00.7	00.9	01.2	01.5	01.8	02.2	02.5
−14	00.0	00.0	00.1	00.3	00.4	00.7	00.9	01.2	01.5	01.8	02.1	02.4
−15	00.0	00.0	00.1	00.3	00.4	00.6	00,9	01.1	01.4	01.7	02.0	02.3
−16	00.0	00.0	00.1	00.2	00.4	00.6	00.8	01.1	01.3	01.6	01.9	02.2
−17	00.0	00.0	00.1	00.2	00.4	00.6	00.8	01.0	01.3	01.6	01.9	02.2
−18	00.0	00.0	00.1	00.2	00.4	00.5	00.8	01.0	01.2	01.5	01.8	02.1
−19	00.0	00.0	00.1	00.2	00.3	00.5	00.7	00.9	01.2	01.4	01.7	02.0
−20	00.0	00.0	00.1	00.2	00.3	00.5	00.7	00.9	01.1	01.4	01.7	02.0
−21	00.0	00.0	00.1	00.2	00.3	00.5	00.7	00.9	01.1	01.4	01.6	01.9
−22	00.0	00.0	00.1	00.2	00.3	00.5	00.6	00.8	01.1	01.3	01.6	01.8
−23	00.0	00.0	00.1	00.2	00.3	00.4	00.6	00.8	01.0	01.3	01.5	01.8
−24	00.0	00.0	00.1	00.2	00.3	00.4	00.6	00.8	01.0	01.2	01.5	01.7

Table 5B. Degree-days for Departures of 12 to 23 (X), and −14 to 23 (Y), from Base Temperature

Y \ X	12	13	14	15	16	17	18	19	20	21	22	23
23												23.0
22											22.0	22.5
21										21.0	21.5	22.0
20									20.0	20.5	21.0	21.5
19								19.0	19.5	20.0	20.5	21.0
18							18.0	18.5	19.0	19.5	20.0	20.5
17						17.0	17.5	18.0	18.5	19.0	19.5	20.0
16					16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5
15				15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0
14			14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5
13		13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0
12	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5
11	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0
10	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5
9	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0
8	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5
7	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0
6	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5
5	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0
4	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5
3	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0
2	07.0	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0	12.5
1	06.5	07.0	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5	12.0
0	06.0	06.5	07.0	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0	11.5
−1	05.5	06.0	06.5	07.0	07.5	08.0	08.5	09.0	09.5	10.0	10.5	11.0
−2	05.1	05.6	06.1	06.6	07.1	07.6	08.1	08.6	09.1	09.6	10.1	10.6
−3	04.8	05.3	05.8	06.3	06.7	07.2	07.7	08.2	08.7	09.2	09.7	10.2
−4	04.5	05.0	05.4	05.9	06.4	06.9	07.4	07.8	08.3	08.8	09.3	09.8
−5	04.2	04.7	05.2	05.6	06.1	06.6	07.0	07.5	08.0	08.5	09.0	09.4
−6	04.0	04.4	04.9	05.4	05.8	06.3	06.8	07.2	07.7	08.2	08.6	09.1
−7	03.8	04.2	04.7	05.1	05.6	06.0	06.5	06.9	07.4	07.9	08.3	08.8
−8	03.6	04.0	04.5	04.9	05.3	05.8	06.2	06.7	07.1	07.6	08.1	08.5
−9	03.4	03.8	04.3	04.7	05.1	05.6	06.0	06.4	06.9	07.4	07.8	08.3
−10	03.3	03.7	04.1	04.5	04.9	05.4	05.8	06.2	06.7	07.1	07.6	08.0
−11	03.1	03.5	03.9	04.3	04.7	05.2	05.6	06.0	06.5	06.9	07.3	07.8
−12	03.0	03.4	03.8	04.2	04.6	05.0	05.4	05.8	06.3	06.7	07.1	07.6
−13	02.9	03.3	03.6	04.0	04.4	04.8	05.2	05.6	06.1	06.5	06.9	07.3
−14	02.8	03.1	03.5	03.9	04.3	04.7	05.1	05.5	05.9	06.3	06.7	07.1

Table 5C. Degree-days for Departures of 24 to 35 (X), and −4 to 35 (Y), from Base Temperature

Y \ X	24	25	26	27	28	29	30	31	32	33	34	35
35												35.0
34											34.0	34.5
33										33.0	33.5	34.0
32									32.0	32.5	33.0	33.5
31								31.0	31.5	32.0	32.5	33.0
30							30.0	30.5	31.0	31.5	32.0	32.5
29						29.0	29.5	30.0	30.5	31.0	31.5	32.0
28					28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5
27				27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0
26			26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5
25		25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0
24	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5
23	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0
22	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5
21	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0
20	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5
19	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0
18	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5
17	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0
16	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5
15	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0
14	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5
13	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0
12	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5
11	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0
10	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5
9	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0
8	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5
7	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0
6	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5
5	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0
4	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5
3	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0
2	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5
1	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0
0	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5
−1	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0
−2	11.1	11.6	12.1	12.6	13.1	13.6	14.1	14.6	15.1	15.6	16.1	16.6
−3	10.7	11.2	11.7	12.2	12.6	13.1	13.6	14.1	14.6	15.1	15.6	16.1
−4	10.3	10.8	11.3	11.8	12.3	12.7	13.2	13.7	14.2	14.7	15.2	15.7

Table 5D. Degree-days for Departures of 36 to 47 (X), and 11 to 47 (Y), from Base Temperature

X \ Y	36	37	38	39	40	41	42	43	44	45	46	47
47												47.0
46											46.0	46.5
45										45.0	45.5	46.0
44									44.0	44.5	45.0	45.5
43								43.0	43.5	44.0	44.5	45.0
42							42.0	42.5	43.0	43.5	44.0	44.5
41						41.0	41.5	42.0	42.5	43.0	43.5	44.0
40					40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5
39				39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0
38			38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5
37		37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0
36	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5
35	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0
34	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5
33	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0
32	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5
31	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0
30	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5
29	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0
28	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5
27	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0
26	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5
25	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0
24	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5
23	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0
22	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5
21	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0
20	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5
19	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0
18	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5
17	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0
16	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5
15	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0
14	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5
13	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0
12	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5
11	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0

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Table 5E. Degree-days for Departures of 48 to 59 (X), and 21 to 59 (Y), from Base Temperature

X \ Y	48	49	50	51	52	53	54	55	56	57	58	59
59												59.0
58											58.0	58.5
57										57.0	57.5	58.0
56									56.0	56.5	57.0	57.5
55								55.0	55.5	56.0	56.5	57.0
54							54.0	54.5	55.0	55.5	56.0	56.5
53						53.0	53.5	54.0	54.5	55.0	55.5	56.0
52					52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5
51				51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0
50			50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5
49		49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0
48	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5
47	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0
46	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5
45	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0
44	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5
43	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0
42	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5
41	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0
40	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5
39	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0
38	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5
37	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0
36	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5
35	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0
34	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
33	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0
32	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5
31	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0
30	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5
29	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0
28	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5
27	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0
26	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5
25	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0
24	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5
23	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0
22	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5
21	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0

Table 5F. Degree-days for Departures of 60 to 71 (X), and 36 to 71 (Y), from Base Temperature

Y \ X	60	61	62	63	64	65	66	67	68	69	70	71
71												71.0
70											70.0	70.5
69										69.0	69.5	70.0
68									68.0	68.5	69.0	69.5
67								67.0	67.5	68.0	68.5	69.0
66							66.0	66.5	67.0	67.5	68.0	68.5
65						65.0	65.5	66.0	66.5	67.0	67.5	68.0
64					64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5
63				63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0
62			62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5
61		61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0
60	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5
59	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0
58	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5
57	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0
56	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5
55	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0
54	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5
53	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0
52	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5
51	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59 0	59.5	60.0	60.5	61.0
50	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5
49	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0
48	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5
47	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0
46	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5
45	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0
44	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5
43	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0
42	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5
41	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0
40	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5
39	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0
38	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5
37	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0
36	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5

Table 5G. Degree-days for Departures of 72 to 83 (X), and 46 to 83 (Y), from Base Temperature

X / Y	72	73	74	75	76	77	78	79	80	81	82	83
83												83.0
82											82.0	82.5
81										81.0	81.5	82.0
80									80.0	80.5	81.0	81.5
79								79.0	79.5	80.0	80.5	81.0
78							78.0	78.5	79.0	79.5	80.0	80.5
77						77.0	77.5	78.0	78.5	79.0	79.5	80.0
76					76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5
75				75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0
74			74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5
73		73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0
72	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5
71	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0
70	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5
69	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0
68	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5
67	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0
66	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5
65	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0
64	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5
63	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0
62	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5
61	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0
60	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5
59	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0
58	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5
57	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0
56	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5
55	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0
54	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5
53	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0
52	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5
51	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0
50	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5
49	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0
48	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5
47	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0
46	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5

Table 5H. Degree-days for Departures of 84 to 95 (X), and 56 to 95 (Y), from Base Temperature

Y \ X	84	85	86	87	88	89	90	91	92	93	94	95
95												95.0
94											94.0	94.5
93										93.0	93.5	94.0
92									92.0	92.5	93.0	93.5
91								91.0	91.5	92.0	92.5	93.0
90							90.0	90.5	91.0	91.5	92.0	92.5
89						89.0	89.5	90.0	90.5	91.0	91.5	92.0
88					88.0	88.5	89.0	89.5	90.0	90.5	91.0	91.5
87				87.0	87.5	88.0	88.5	89.0	89.5	90.0	90.5	91.0
86			86.0	86.5	87.0	87.5	88.0	88.5	89.0	89.5	90.0	90.5
85		85.0	85.5	86.0	86.5	87.0	87.5	88.0	88.5	89.0	89.5	90.0
84	84.0	84.5	85.0	85.5	86.0	86.5	87.0	87.5	88.0	88.5	89.0	89.5
83	83.5	84.0	84.5	85.0	85.5	86.0	86.5	87.0	87.5	88.0	88.5	89.0
82	83.0	83.5	84.0	84.5	85.0	85.5	86.0	86.5	87.0	87.5	88.0	88.5
81	82.5	83.0	83.5	84.0	84.5	85.0	85.5	86.0	86.5	87.0	87.5	88.0
80	82.0	82.5	83.0	83.5	84.0	84.5	85.0	85.5	86.0	86.5	87.0	87.5
79	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0	85.5	86.0	86.5	87.0
78	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0	85.5	86.0	86.5
77	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0	85.5	86.0
76	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0	85.5
75	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0
74	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5
73	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0
72	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5
71	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0
70	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5
69	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0
68	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5
67	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0
66	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5
65	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0
64	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5
63	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0
62	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5
61	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0
60	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5
59	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0
58	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5
57	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0
56	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5

Table 5I. Degree-days for Departures of 96 to 105 (X), and 66 to 105 (Y), from Base Temperature

Y \ X	96	97	98	99	100	101	102	103	104	105
105										105.0
104									104.0	104.5
103								103.0	103.5	104.0
102							102.0	102.5	103.0	103.5
101						101.0	101.5	102.0	102.5	103.0
100					100.0	100.5	101.0	101.5	102.0	102.5
99				099.0	099.5	100.0	100.5	101.0	101.5	102.0
98			098.0	098.5	099.0	099.5	100.0	100.5	101.0	101.5
97		097.0	097.5	098.0	098.5	099.0	099.5	100.0	100.5	101.0
96	096.0	096.5	097.0	097.5	098.0	098.5	099.0	099.5	100.0	100.5
95	095.5	096.0	096.5	097.0	097.5	098.0	098.5	099.0	099.5	100.0
94	095.0	095.5	096.0	096.5	097.0	097.5	098.0	098.5	099.0	099.5
93	094.5	095.0	095.5	096.0	096.5	097.0	097.5	098.0	098.5	099.0
92	094.0	094.5	095.0	095.5	096.0	096.5	097.0	097.5	098.0	098.5
91	093.5	094.0	094.5	095.0	095.5	096.0	096.5	097.0	097.5	098.0
90	093.0	093.5	094.0	094.5	095.0	095.5	096.0	096.5	097.0	097.5
89	092.5	093.0	093.5	094.0	094.5	095.0	095.5	096.0	096.5	097.0
88	092.0	092.5	093.0	093.5	094.0	094.5	095.0	095.5	096.0	096.5
87	091.5	092.0	092.5	093.0	093.5	094.0	094.5	095.0	095.5	096.0
86	091.0	091.5	092.0	092.5	093.0	093.5	094.0	094.5	095.0	095.5
85	090.5	091.0	091.5	092.0	092.5	093.0	093.5	094.0	094.5	095.0
84	090.0	090.5	091.0	091.5	092.0	092.5	093.0	093.5	094.0	094.5
83	089.5	090.0	090.5	091.0	091.5	092.0	092.5	093.0	093.5	094.0
82	089.0	089.5	090.0	090.5	091.0	091.5	092.0	092.5	093.0	093.5
81	088.5	089.0	089.5	090.0	090.5	091.0	091.5	092.0	092.5	093.0
80	088.0	088.5	089.0	089.5	090.0	090.5	091.0	091.5	092.0	092.5
79	087.5	088.0	088.5	089.0	089.5	090.0	090.5	091.0	091.5	092.0
78	087.0	087.5	088.0	088.5	089.0	089.5	090.0	090.5	091.0	091.5
77	086.5	087.0	087.5	088.0	088.5	089.0	089.5	090.0	090.5	091.0
76	086.0	086.5	087.0	087.5	088.0	088.5	089.0	089.5	090.0	090.5
75	085.5	086.0	086.5	087.0	087.5	088.0	088.5	089.0	089.5	090.0
74	085.0	085.5	086.0	086.5	087.0	087.5	088.0	088.5	089.0	089.5
73	084.5	085.0	085.5	086.0	086.5	087.0	087.5	088.0	088.5	089.0
72	084.0	084.5	085.0	085.5	086.0	086.5	087.0	087.5	088.0	088.5
71	083.5	084.0	084.5	085.0	085.5	086.0	086.5	087.0	087.5	088.0
70	083.0	083.5	084.0	084.5	085.0	085.5	086.0	086.5	087.0	087.5
69	082.5	083.0	083.5	084.0	084.5	085.0	085.5	086.0	086.5	087.0
68	082.0	082.5	083.0	083.5	084.0	084.5	085.0	085.5	086.0	086.5
67	081.5	082.0	082.5	083.0	083.5	084.0	084.5	085.0	085.5	086.0
66	081.0	081.5	082.0	082.5	083.0	083.5	084.0	084.5	085.0	085.5

Table 5J. Degree-days for Departures of 106 to 115 (X), and 76 to 115 (Y), from Base Temperature

Y \ X	106	107	108	109	110	111	112	113	114	115
115										115.0
114									114.0	114.5
113								113.0	113.5	114.0
112							112.0	112.5	113.0	113.5
111						111.0	111.5	112.0	112.5	113.0
110					110.0	110.5	111.0	111.5	112.0	112.5
109				109.0	109.5	110.0	110.5	111.0	111.5	112.0
108			108.0	108.5	109.0	109.5	110.0	110.5	111.0	111.5
107		107.0	107.5	108.0	108.5	109.0	109.5	110.0	110.5	111.0
106	106.0	106.5	107.0	107.5	108.0	108.5	109.0	109.5	110.0	110.5
105	105.5	106.0	106.5	107.0	107.5	108.0	108.5	109.0	109.5	110.0
104	105.0	105.5	106.0	106.5	107.0	107.5	108.0	108.5	109.0	109.5
103	104.5	105.0	105.5	106.0	106.5	107.0	107.5	108.0	108.5	109.0
102	104.0	104.5	105.0	105.5	106.0	106.5	107.0	107.5	108.0	108.5
101	103.5	104.0	104.5	105.0	105.5	106.0	106.5	107.0	107.5	108.0
100	103.0	103.5	104.0	104.5	105.0	105.5	106.0	106.5	107.0	107.5
99	102.5	103.0	103.5	104.0	104.5	105.0	105.5	106.0	106.5	107.0
98	102.0	102.5	103.0	103.5	104.0	104.5	105.0	105.5	106.0	106.5
97	101.5	102.0	102.5	103.0	103.5	104.0	104.5	105.0	105.5	106.0
96	101.0	101.5	102.0	102.5	103.0	103.5	104.0	104.5	105.0	105.5
95	100.5	101.0	101.5	102.0	102.5	103.0	103.5	104.0	104.5	105.0
94	100.0	100.5	101.0	101.5	102.0	102.5	103.0	103.5	104.0	104.5
93	099.5	100.0	100.5	101.0	101.5	102.0	102.5	103.0	103.5	104.0
92	099.0	099.5	100.0	100.5	101.0	101.5	102.0	102.5	103.0	103.5
91	098.5	099.0	099.5	100.0	100.5	101.0	101.5	102.0	102.5	103.0
90	098.0	098.5	099.0	099.5	100.0	100.5	101.0	101.5	102.0	102.5
89	097.5	098.0	098.5	099.0	099.5	100.0	100.5	101.0	101.5	102.0
88	097.0	097.5	098.0	098.5	099.0	099.5	100.0	100.5	101.0	101.5
87	096.5	097.0	097.5	098.0	098.5	099.0	099.5	100.0	100.5	101.0
86	096.0	096.5	097.0	097.5	098.0	098.5	099.0	099.5	100.0	100.5
85	095.5	096.0	096.5	097.0	097.5	098.0	098.5	099.0	099.5	100.0
84	095.0	095.5	096.0	096.5	097.0	097.5	098.0	098.5	099.0	099.5
83	094.5	095.0	095.5	096.0	096.5	097.0	097.5	098.0	098.5	099.0
82	094.0	094.5	095.0	095.5	096.0	096.5	097.0	097.5	098.0	098.5
81	093.5	094.0	094.5	095.0	095.5	096.0	096.5	097.0	097.5	098.0
80	093.0	093.5	094.0	094.5	095.0	095.5	096.0	096.5	097.0	097.5
79	092.5	093.0	093.5	094.0	094.5	095.0	095.5	096.0	096.5	097.0
78	092.0	092.5	093.0	093.5	094.0	094.5	095.0	095.5	096.0	096.5
77	091.5	092.0	092.5	093.0	093.5	094.0	094.5	095.0	095.5	096.0
76	091.0	091.5	092.0	092.5	093.0	093.5	094.0	094.5	095.0	095.5

Table 5K. Degree-days for Departures of 116 to 125 (X), and 86 to 125 (Y), from Base Temperature

X / Y	116	117	118	119	120	121	122	123	124	125
125										125.0
124									124.0	124.5
123								123.0	123.5	124.0
122							122.0	122.5	123.0	123.5
121						121.0	121.5	122.0	122.5	123.0
120					120.0	120.5	121.0	121.5	122.0	122.5
119				119.0	119.5	120.0	120.5	121.0	121.5	122.0
118			118.0	118.5	119.0	119.5	120.0	120.5	121.0	121.5
117		117.0	117.5	118.0	118.5	119.0	119.5	120.0	120.5	121.0
116	116.0	116.5	117.0	117.5	118.0	118.5	119.0	119.5	120.0	120.5
115	115.5	116.0	116.5	117.0	117.5	118.0	118.5	119.0	119.5	120.0
114	115.0	115.5	116.0	116.5	117.0	117.5	118.0	118.5	119.0	119.5
113	114.5	115.0	115.5	116.0	116.5	117.0	117.5	118.0	118.5	119.0
112	114.0	114.5	115.0	115.5	116.0	116.5	117.0	117.5	118.0	118.5
111	113.5	114.0	114.5	115.0	115.5	116.0	116.5	117.0	117.5	118.0
110	113.0	113.5	114.0	114.5	115.0	115.5	116.0	116.5	117.0	117.5
109	112.5	113.0	113.5	114.0	114.5	115.0	115.5	116.0	116.5	117.0
108	112.0	112.5	113.0	113.5	114.0	114.5	115.0	115.5	116.0	116.5
107	111.5	112.0	112.5	113.0	113.5	114.0	114.5	115.0	115.5	116.0
106	111.0	111.5	112.0	112.5	113.0	113.5	114.0	114.5	115.0	115.5
105	110.5	111.0	111.5	112.0	112.5	113.0	113.5	114.0	114.5	115.0
104	110.0	110.5	111.0	111.5	112.0	112.5	113.0	113.5	114.0	114.5
103	109.5	110.0	110.5	111.0	111.5	112.0	112.5	113.0	113.5	114.0
102	109.0	109.5	110.0	110.5	111.0	111.5	112.0	112.5	113.0	113.5
101	108.5	109.0	109.5	110.0	110.5	111.0	111.5	112.0	112.5	113.0
100	108.0	108.5	109.0	109.5	110.0	110.5	111.0	111.5	112.0	112.5
99	107.5	108.0	108.5	109.0	109.5	110.0	110.5	111.0	111.5	112.0
98	107.0	107.5	108.0	108.5	109.0	109.5	110.0	110.5	111.0	111.5
97	106.5	107.0	107.5	108.0	108.5	109.0	109.5	110.0	110.5	111.0
96	106.0	106.5	107.0	107.5	108.0	108.5	109.0	109.5	110.0	110.5
95	105.5	106.0	106.5	107.0	107.5	108.0	108.5	109.0	109.5	110.0
94	105.0	105.5	106.0	106.5	107.0	107.5	108.0	108.5	109.0	109.5
93	104.5	105.0	105.5	106.0	106.5	107.0	107.5	108.0	108.5	109.0
92	104.0	104.5	105.0	105.5	106.0	106.5	107.0	107.5	108.0	108.5
91	103.5	104.0	104.5	105.0	105.5	106.0	106.5	107.0	107.5	108.0
90	103.0	103.5	104.0	104.5	105.0	105.5	106.0	106.5	107.0	107.5
89	102.5	103.0	103.5	104.0	104.5	105.0	105.5	106.0	106.5	107.0
88	102.0	102.5	103.0	103.5	104.0	104.5	105.0	105.5	106.0	106.5
87	101.5	102.0	102.5	103.0	103.5	104.0	104.5	105.0	105.5	106.0
86	101.0	101.5	102.0	102.5	103.0	103.5	104.0	104.5	105.0	105.5

Table 5L. Degree-days for Departures of 126 to 135 (X), and 96 to 135 (Y), from Base Temperature

X / Y	126	127	128	129	130	131	132	133	134	135
135										135.0
134									134.0	134.5
133								133.0	133.5	134.0
132							132.0	132.5	133.0	133.5
131						131.0	131.5	132.0	132.5	133.0
130					130.0	130.5	131.0	131.5	132.0	132.5
129				129.0	129.5	130.0	130.5	131.0	131.5	132.0
128			128.0	128.5	129.0	129.5	130.0	130.5	131.0	131.5
127		127.0	127.5	128.0	128.5	129.0	129.5	130.0	130.5	131.0
126	126.0	126.5	127.0	127.5	128.0	128.5	129.0	129.5	130.0	130.5
125	125.5	126.0	126.5	127.0	127.5	128.0	128.5	129.0	129.5	130.0
124	125.0	125.5	126.0	126.5	127.0	127.5	128.0	128.5	129.0	129.5
123	124.5	125.0	125.5	126.0	126.5	127.0	127.5	128.0	128.5	129.0
122	124.0	124.5	125.0	125.5	126.0	126.5	127.0	127.5	128.0	128.5
121	123.5	124.0	124.5	125.0	125.5	126.0	126.5	127.0	127.5	128.0
120	123.0	123.5	124.0	124.5	125.0	125.5	126.0	126.5	127.0	127.5
119	122.5	123.0	123.5	124.0	124.5	125.0	125.5	126.0	126.5	127.0
118	122.0	122.5	123.0	123.5	124.0	124.5	125.0	125.5	126.0	126.5
117	121.5	122.0	122.5	123.0	123.5	124.0	124.5	125.0	125.5	126.0
116	121.0	121.5	122.0	122.5	123.0	123.5	124.0	124.5	125.0	125.5
115	120.5	121.0	121.5	122.0	122.5	123.0	123.5	124.0	124.5	125.0
114	120.0	120.5	121.0	121.5	122.0	122.5	123.0	123.5	124.0	124.5
113	119.5	120.0	120.5	121.0	121.5	122.0	122.5	123.0	123.5	124.0
112	119.0	119.5	120.0	120.5	121.0	121.5	122.0	122.5	123.0	123.5
111	118.5	119.0	119.5	120.0	120.5	121.0	121.5	122.0	122.5	123.0
110	118.0	118.5	119.0	119.5	120.0	120.5	121.0	121.5	122.0	122.5
109	117.5	118.0	118.5	119.0	119.5	120.0	120.5	121.0	121.5	122.0
108	117.0	117.5	118.0	118.5	119.0	119.5	120.0	120.5	121.0	121.5
107	116.5	117.0	117.5	118.0	118.5	119.0	119.5	120.0	120.5	121.0
106	116.0	116.5	117.0	117.5	118.0	118.5	119.0	119.5	120.0	120.5
105	115.5	116.0	116.5	117.0	117.5	118.0	118.5	119.0	119.5	120.0
104	115.0	115.5	116.0	116.5	117.0	117.5	118.0	118.5	119.0	119.5
103	114.5	115.0	115.5	116.0	116.5	117.0	117.5	118.0	118.5	119.0
102	114.0	114.5	115.0	115.5	116.0	116.5	117.0	117.5	118.0	118.5
101	113.5	114.0	114.5	115.0	115.5	116.0	116.5	117.0	117.5	118.0
100	113.0	113.5	114.0	114.5	115.0	115.5	116.0	116.5	117.0	117.5
99	112.5	113.0	113.5	114.0	114.5	115.0	115.5	116.0	116.5	117.0
98	112.0	112.5	113.0	113.5	114.0	114.5	115.0	115.5	116.0	116.5
97	111.5	112.0	112.5	113.0	113.5	114.0	114.5	115.0	115.5	116.0
96	111.0	111.5	112.0	112.5	113.0	113.5	114.0	114.5	115.0	115.5

Table 6A. Degree-days for Departures of 0 to 11 (X), and -60 to -25 (Y), from Base Temperature

X → Y ↓	0	1	2	3	4	5	6	7	8	9	10	11
-25	00.0	00.0	00.1	00.2	00.3	00.4	00.6	00.8	01.0	01.2	01.4	01.7
-26	00.0	00.0	00.1	00.2	00.3	00.4	00.6	00.7	00.9	01.2	01.4	01.6
-27	00.0	00.0	00.1	00.2	00.3	00.4	00.5	00.7	00.9	01.1	01.4	01.6
-28	00.0	00.0	00.1	00.1	00.3	00.4	00.5	00.7	00.9	01.1	01.3	01.6
-29	00.0	00.0	00.1	00.1	00.2	00.4	00.5	00.7	00.9	01.1	01.3	01.5
-30	00.0	00.0	00.1	00.1	00.2	00.4	00.5	00.7	00.8	01.0	01.3	01.5
-31	00.0	00.0	00.1	00.1	00.2	00.3	00.5	00.6	00.8	01.0	01.2	01.4
-32	00.0	00.0	00.1	00.1	00.2	00.3	00.5	00.6	00.8	01.0	01.2	01.4
-33	00.0	00.0	00.1	00.1	00.2	00.3	00.5	00.6	00.8	01.0	01.2	01.4
-34	00.0	00.0	00.1	00.1	00.2	00.3	00.5	00.6	00.8	00.9	01.1	01.3
-35	00.0	00.0	00.1	00.1	00.2	00.3	00.4	00.6	00.7	00.9	01.1	01.3
-36	00.0	00.0	00.1	00.1	00.2	00.3	00.4	00.6	00.7	00.9	01.1	01.3
-37	00.0	00.0	00.1	00.1	00.2	00.3	00.4	00.6	00.7	00.9	01.1	01.3
-38	00.0	00.0	00.1	00.1	00.2	00.3	00.4	00.5	00.7	00.9	01.0	01.2
-39	00.0	00.0	00.0	00.1	00.2	00.3	00.4	00.5	00.7	00.8	01.0	01.2
-40	00.0	00.0	00.0	00.1	00.2	00.3	00.4	00.5	00.7	00.8	01.0	01.2
-41	00.0	00.0	00.0	00.1	00.2	00.3	00.4	00.5	00.7	00.8	01.0	01.2
-42	00.0	00.0	00.0	00.1	00.2	00.3	00.4	00.5	00.6	00.8	01.0	01.1
-43	00.0	00.0	00.0	00.1	00.2	00.3	00.4	00.5	00.6	00.8	00.9	01.1
-44	00.0	00.0	00.0	00.1	00.2	00.3	00.4	00.5	00.6	00.8	00.9	01.1
-45	00.0	00.0	00.0	00.1	00.2	00.3	00.4	00.5	00.6	00.8	00.9	01.1
-46	00.0	00.0	00.0	00.1	00.2	00.2	00.3	00.5	00.6	00.7	00.9	01.1
-47	00.0	00.0	00.0	00.1	00.2	00.2	00.3	00.5	00.6	00.7	00.9	01.0
-48	00.0	00.0	00.0	00.1	00.2	00.2	00.3	00.4	00.6	00.7	00.9	01.0
-49	00.0	00.0	00.0	00.1	00.2	00.2	00.3	00.4	00.6	00.7	00.8	01.0
-50	00.0	00.0	00.0	00.1	00.1	00.2	00.3	00.4	00.6	00.7	00.8	
-51	00.0	00.0	00.0	00.1	00.1	00.2	00.3	00.4	00.5	00.7		
-52	00.0	00.0	00.0	00.1	00.1	00.2	00.3	00.4	00.5			
-53	00.0	00.0	00.0	00.1	00.1	00.2	00.3	00.4				
-54	00.0	00.0	00.0	00.1	00.1	00.2	00.3					
-55	00.0	00.0	00.0	00.1	00.1	00.2						
-56	00.0	00.0	00.0	00.1	00.1							
-57	00.0	00.0	00.0	00.1								
-58	00.0	00.0	00.0									
-59	00.0	00.0										
-60	00.0											

Table 6B. Degree-days for Departures of 12 to 23 (X), and ⁻48 to ⁻15 (Y), from Base Temperature

Y	12	13	14	15	16	17	18	19	20	21	22	23
-15	02.7	03.0	03.4	03.8	04.1	04.5	04.9	05.3	05.7	06.1	06.5	07.0
-16	02.6	02.9	03.3	03.6	04.0	04.4	04.8	05.2	05.6	06.0	06.4	06.8
-17	02.5	02.8	03.2	03.5	03.9	04.3	04.6	05.0	05.4	05.8	06.2	06.6
-18	02.4	02.7	03.1	03.4	03.8	04.1	04.5	04.9	05.3	05.7	06.1	06.5
-19	02.3	02.6	03.0	03.3	03.7	04.0	04.4	04.8	05.1	05.5	05.9	06.3
-20	02.3	02.6	02.9	03.2	03.6	03.9	04.3	04.6	05.0	05.4	05.8	06.2
-21	02.2	02.5	02.8	03.1	03.5	03.8	04.2	04.5	04.9	05.3	05.6	06.0
-22	02.1	02.4	02.7	03.0	03.4	03.7	04.1	04.4	04.8	05.1	05.5	05.9
-23	02.1	02.3	02.6	03.0	03.3	03.6	04.0	04.3	04.7	05.0	05.4	05.8
-24	02.0	02.3	02.6	02.9	03.2	03.5	03.9	04.2	04.5	04.9	05.3	05.6
-25	01.9	02.2	02.5	02.8	03.1	03.4	03.8	04.1	04.4	04.8	05.1	05.5
-26	01.9	02.2	02.5	02.7	03.0	03.4	03.7	04.0	04.3	04.7	05.0	05.4
-27	01.8	02.1	02.4	02.7	03.0	03.3	03.6	03.9	04.3	04.6	04.9	05.3
-28	01.8	02.1	02.3	02.6	02.9	03.2	03.5	03.8	04.2	04.5	04.8	05.2
-29	01.8	02.0	02.3	02.6	02.8	03.1	03.4	03.8	04.1	04.4	04.7	05.1
-30	01.7	02.0	02.2	02.5	02.8	03.1	03.4	03.7	04.0	04.3	04.7	05.0
-31	01.7	01.9	02.2	02.4	02.7	03.0	03.3	03.6	03.9	04.2	04.6	04.9
-32	01.6	01.9	02.1	02.4	02.7	02.9	03.2	03.5	03.8	04.2	04.5	04.8
-33	01.6	01.8	02.1	02.3	02.6	02.9	03.2	03.5	03.8	04.1	04.4	04.7
-34	01.6	01.8	02.0	02.3	02.6	02.8	03.1	03.4	03.7	04.0	04.3	04.6
-35	01.5	01.8	02.0	02.3	02.5	02.8	03.1	03.3	03.6	03.9	04.2	04.6
-36	01.5	01.7	02.0	02.2	02.5	02.7	03.0	03.3	03.6	03.9	04.2	04.5
-37	01.5	01.7	01.9	02.2	02.4	02.7	02.9	03.2	03.5	03.8	04.1	04.4
-38	01.4	01.7	01.9	02.1	02.4	02.6	02.9	03.2	03.4	03.7	04.0	
-39	01.4	01.6	01.8	02.1	02.3	02.6	02.8	03.1	03.4	03.7		
-40	01.4	01.6	01.8	02.0	02.3	02.5	02.8	03.1	03.3			
-41	01.4	01.6	01.8	02.0	02.2	02.5	02.7	03.0				
-42	01.3	01.5	01.8	02.0	02.2	02.4	02.7					
-43	01.3	01.5	01.7	01.9	02.2	02.4						
-44	01.3	01.5	01.7	01.9	02.1							
-45	01.3	01.5	01.7	01.9								
-46	01.2	01.4	01.6									
-47	01.2	01.4										
-48	01.2											

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Table 6C. Degree-days for Departures of 24 to 35 (X), and −36 to −5 (Y), from Base Temperature

X	24	25	26	27	28	29	30	31	32	33	34	35
Y												
−5	09.9	10.4	10.9	11.4	11.9	12.4	12.9	13.3	13.8	14.3	14.8	15.3
−6	09.6	10.1	10.6	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	14.9
−7	09.3	09.8	10.2	10.7	11.2	11.7	12.2	12.6	13.1	13.6	14.1	14.6
−8	09.0	09.5	09.9	10.4	10.9	11.4	11.8	12.3	12.8	13.3	13.8	14.2
−9	08.7	09.2	09.7	10.1	10.6	11.1	11.5	12.0	12.5	13.0	13.4	13.9
−10	08.5	08.9	09.4	09.9	10.3	10.8	11.3	11.7	12.2	12.7	13.1	13.6
−11	08.2	08.7	09.1	09.6	10.1	10.5	11.0	11.4	11.9	12.4	12.8	13.3
−12	08.0	08.4	08.9	09.3	09.8	10.3	10.7	11.2	11.6	12.1	12.6	13.0
−13	07.8	08.2	08.7	09.1	09.6	10.0	10.5	10.9	11.4	11.8	12.3	12.8
−14	07.6	08.0	08.5	08.9	09.3	09.8	10.2	10.7	11.1	11.6	12.0	12.5
−15	07.4	07.8	08.2	08.7	09.1	09.6	10.0	10.4	10.9	11.3	11.8	12.3
−16	07.2	07.6	08.0	08.5	08.9	09.3	09.8	10.2	10.7	11.1	11.6	12.0
−17	07.0	07.4	07.9	08.3	08.7	09.1	09.6	10.0	10.4	10.9	11.3	11.8
−18	06.9	07.3	07.7	08.1	08.5	08.9	09.4	09.8	10.2	10.7	11.1	11.6
−19	06.7	07.1	07.5	07.9	08.3	08.8	09.2	09.6	10.0	10.5	10.9	11.3
−20	06.5	06.9	07.3	07.8	08.2	08.6	09.0	09.4	09.8	10.3	10.7	11.1
−21	06.4	06.8	07.2	07.6	08.0	08.4	08.8	09.2	09.7	10.1	10.5	10.9
−22	06.3	06.6	07.0	07.4	07.8	08.2	08.7	09.1	09.5	09.9	10.3	10.7
−23	06.1	06.5	06.9	07.3	07.7	08.1	08.5	08.9	09.3	09.7	10.1	10.6
−24	06.0	06.4	06.8	07.1	07.5	07.9	08.3	08.7	09.1	09.6	10.0	10.4
−25	05.9	06.3	06.6	07.0	07.4	07.8	08.2	08.6	09.0	09.4	09.8	10.2
−26	05.8	06.1	06.5	06.9	07.3	07.6	08.0	08.4	08.8	09.2	09.6	
−27	05.6	06.0	06.4	06.8	07.1	07.5	07.9	08.3	08.7	09.1		
−28	05.5	05.9	06.3	06.6	07.0	07.4	07.8	08.1	08.5			
−29	05.4	05.8	06.1	06.5	06.9	07.3	07.6	08.0				
−30	05.3	05.7	06.0	06.4	06.8	07.1	07.5					
−31	05.2	05.6	05.9	06.3	06.6	07.0						
−32	05.1	05.5	05.8	06.2	06.5							
−33	05.1	05.4	05.7	06.1								
−34	05.0	05.3	05.6									
−35	04.9	05.2										
−36	04.8											

Table 6D. Degree-days for Departures of 36 to 47 (X), and −24 to 10 (Y), from Base Temperature

X	36	37	38	39	40	41	42	43	44	45	46	47
Y												
10	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5
9	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0
8	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5
7	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0
6	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5
5	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0
4	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5
3	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0
2	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5
1	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0
0	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5
−1	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0
−2	17.1	17.6	18.1	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5
¬3	16.6	17.1	17.6	18.1	18.6	19.1	19.6	20.1	20.6	21.1	21.6	22.1
−4	16.2	16.7	17.2	17.7	18.2	18.7	19.2	19.7	20.2	20.7	21.2	21.7
−5	15.8	16.3	16.8	17.3	17.8	18.3	18.8	19.3	19.8	20.3	20.7	21.2
−6	15.4	15.9	16.4	16.9	17.4	17.9	18.4	18.9	19.4	19.9	20.3	20.8
−7	15.1	15.6	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5
−8	14.7	15.2	15.7	16.2	16.7	17.2	17.6	18.1	18.6	19.1	19.6	20.1
−9	14.4	14.9	15.4	15.8	16.3	16.8	17.3	17.8	18.3	18.8	19.2	19.7
−10	14.1	14.6	15.0	15.5	16.0	16.5	17.0	17.4	17.9	18.4	18.9	19.4
−11	13.8	14.3	14.7	15.2	15.7	16.2	16.6	17.1	17.6	18.1	18.6	19.0
−12	13.5	14.0	14.4	14.9	15.4	15.9	16.3	16.8	17.3	17.8	18.2	18.7
−13	13.2	13.7	14.2	14.6	15.1	15.6	16.0	16.5	17.0	17.5	17.9	18.4
−14	13.0	13.4	13.9	14.3	14.8	15.3	15.8	16.2	16.7	17.2	17.6	
−15	12.7	13.2	13.6	14.1	14.5	15.0	15.5	15.9	16.4	16.9		
−16	12.5	12.9	13.4	13.8	14.3	14.7	15.2	15.7	16.1			
−17	12.2	12.7	13.1	13.6	14.0	14.5	14.9	15.4				
−18	12.0	12.4	12.9	13.3	13.8	14.2	14.7					
−19	11.8	12.2	12.7	13.1	13.6	14.0						
−20	11.6	12.0	12.4	12.9	13.3							
−21	11.4	11.8	12.2	12.7								
−22	11.2	11.6	12.0									
−23	11.0	11.4										
−24	10.8											

Table 6E. Degree-days for Departures of 48 to 59 (X), and −12 to 20 (Y), from Base Temperature

X	48	49	50	51	52	53	54	55	56	57	58	59
Y												
20	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5
19	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0
18	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5
17	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0
16	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5
15	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0
14	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5
13	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0
12	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.9	34.5	35.0	35.5
11	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0
10	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5
9	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0
8	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5
7	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0
6	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5
5	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0
4	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5
3	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0
2	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5
1	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0
0	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5
−1	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0
−2	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	
−3	22.6	23.1	23.6	24.1	24.6	25.1	25.6	26.1	26.6	27.1		
−4	22.2	22.7	23.1	23.6	24.1	24.6	25.1	25.6	26.1			
−5	21.7	22.2	22.7	23.2	23.7	24.2	24.7	25.2				
−6	21.3	21.8	22.3	22.8	23.3	23.8	24.3					
−7	20.9	21.4	21.9	22.4	22.9	23.4						
−8	20.6	21.1	21.6	22.0	22.5							
−9	20.2	20.7	21.2	21.7								
−10	19.9	20.3	20.8									
−11	19.5	20.0										
−12	19.2											

Table 6F. Degree-days for Departures of 60 to 71 (X). and 0 to 35 (Y), from Base Temperature

X	60	61	62	63	64	65	66	67	68	69	70	71
Y												
35	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0
34	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5
33	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0
32	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5
31	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0
30	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5
29	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0
28	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5
27	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0
26	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5
25	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0
24	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5
23	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0
22	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
21	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0
20	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5
19	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0
18	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5
17	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0
16	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5
15	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0
14	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5
13	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0
12	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5
11	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0
10	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	
9	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0		
8	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0			
7	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0				
6	33.0	33.5	34.0	34.5	35.0	35.5	36.0					
5	32.5	33.0	33.5	34.0	34.5	35.0						
4	32.0	32.5	33.0	33.5	34.0							
3	31.5	32.0	32.5	33.0								
2	31.0	31.5	32.0									
1	30.5	31.0										
0	30.0											

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Table 6G. Degree-days for Departures of 72 to 83 (X), and 12 to 45 (Y), from Base Temperature

Y \ X	72	73	74	75	76	77	78	79	80	81	82	83
45	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0
44	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5
43	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0
42	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5
41	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0
40	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5
39	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0
38	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5
37	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0
36	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5
35	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0
34	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5
33	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0
32	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5
31	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0
30	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5
29	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0
28	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5
27	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0
26	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5
25	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0
24	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5
23	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0
22	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	
21	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0		
20	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0			
19	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0				
18	45.0	45.5	46.0	46.5	47.0	47.5	48.0					
17	44.5	45.0	45.5	46.0	46.5	47.0						
16	44.0	44.5	45.0	45.5	46.0							
15	43.5	44.0	44.5	45.0								
14	43.0	43.5	44.0									
13	42.5	43.0										
12	42.0											

Table 6H. Degree-days for Departures of 84 to 95 (X), and 24 to 55 (Y), from Base Temperature

Y \ X	84	35	86	87	88	89	90	91	92	93	94	95
55	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0
54	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5
53	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0
52	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5
51	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0
50	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5
49	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0
48	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5
47	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0
46	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5
45	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0
44	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5
43	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0
42	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5
41	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0
40	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5
39	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0
38	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5
37	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0
36	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5
35	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0
34	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	
33	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0		
32	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0			
31	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0				
30	57.0	57.5	58.0	58.5	59.0	59.5	60.0					
29	56.5	57.0	57.5	58.0	58.5	59.0						
28	56.0	56.5	57.0	57.5	58.0							
27	55.5	56.0	56.5	57.0								
26	55.0	55.5	56.0									
25	54.5	55.0										
24	54.0											

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Table 6I. Degree-days for Departures of 96 to 105 (X), and 36 to 65 (Y), from Base Temperature

X / Y	96	97	98	99	100	101	102	103	104	105
65	080.5	081.0	081.5	082.0	082.5	083.0	083.5	084.0	084.5	085.0
64	080.0	080.5	081.0	081.5	082.0	082.5	083.0	083.5	084.0	084.5
63	079.5	080.0	080.5	081.0	081.5	082.0	082.5	083.0	083.5	084.0
62	079.0	079.5	080.0	080.5	081.0	081.5	082.0	082.5	083.0	083.5
61	078.5	079.0	079.5	080.0	080.5	081.0	081.5	082.0	082.5	083.0
60	078.0	078.5	079.0	079.5	080.0	080.5	081.0	081.5	082.0	082.5
59	077.5	078.0	078.5	079.0	079.5	080.0	080.5	081.0	081.5	082.0
58	077.0	077.5	078.0	078.5	079.0	079.5	080.0	080.5	081.0	081.5
57	076.5	077.0	077.5	078.0	078.5	079.0	079.5	080.0	080.5	081.0
56	076.0	076.5	077.0	077.5	078.0	078.5	079.0	079.5	080.0	080.5
55	075.5	076.0	076.5	077.0	077.5	078.0	078.5	079.0	079.5	080.0
54	075.0	075.5	076.0	076.5	077.0	077.5	078.0	078.5	079.0	079.5
53	074.5	075.0	075.5	076.0	076.5	077.0	077.5	078.0	078.5	079.0
52	074.0	074.5	075.0	075.5	076.0	076.5	077.0	077.5	078.0	078.5
51	073.5	074.0	074.5	075.0	075.5	076.0	076.5	077.0	077.5	078.0
50	073.0	073.5	074.0	074.5	075.0	075.5	076.0	076.5	077.0	077.5
49	072.5	073.0	073.5	074.0	074.5	075.0	075.5	076.0	076.5	077.0
48	072.0	072.5	073.0	073.5	074.0	074.5	075.0	075.5	076.0	076.5
47	071.5	072.0	072.5	073.0	073.5	074.0	074.5	075.0	075.5	076.0
46	071.0	071.5	072.0	072.5	073.0	073.5	074.0	074.5	075.0	075.5
45	070.5	071.0	071.5	072.0	072.5	073.0	073.5	074.0	074.5	075.0
44	070.0	070.5	071.0	071.5	072.0	072.5	073.0	073.5	074.0	
43	069.5	070.0	070.5	071.0	071.5	072.0	072.5	073.0		
42	069.0	069.5	070.0	070.5	071.0	071.5	072.0			
41	068.5	069.0	069.5	070.0	070.5	071.0				
40	068.0	068.5	069.0	069.5	070.0					
39	067.5	068.0	068.5	069.0						
38	067.0	067.5	068.0							
37	066.5	067.0								
36	066.0									

Table 6J. Degree-days for Departures of 106 to 115 (X), and 46 to 75 (Y), from Base Temperature

| Y \ X	106	107	108	109	110	111	112	113	114	115
75	090.5	091.0	091.5	092.0	092.5	093.0	093.5	094.0	094.5	095.0
74	090.0	090.5	091.0	091.5	092.0	092.5	093.0	093.5	094.0	094.5
73	089.5	090.0	090.5	091.0	091.5	092.0	092.5	093.0	093.5	094.0
72	089.0	089.5	090.0	090.5	091.0	091.5	092.0	092.5	093.0	093.5
71	088.5	089.0	089.5	090.0	090.5	091.0	091.5	092.0	092.5	093.0
70	088.0	088.5	089.0	089.5	090.0	090.5	091.0	091.5	092.0	092.5
69	087.5	088.0	088.5	089.0	089.5	090.0	090.5	091.0	091.5	092.0
68	087.0	087.5	088.0	088.5	089.0	089.5	090.0	090.5	091.0	091.5
67	086.5	087.0	087.5	088.0	088.5	089.0	089.5	090.0	090.5	091.0
66	086.0	086.5	087.0	087.5	088.0	088.5	089.0	089.5	090.0	090.5
65	085.5	086.0	086.5	087.0	087.5	088.0	088.5	089.0	089.5	090.0
64	085.0	085.5	086.0	086.5	087.0	087.5	088.0	088.5	089.0	089.5
63	084.5	085.0	085.5	086.0	086.5	087.0	087.5	088.0	088.5	089.0
62	084.0	084.5	085.0	085.5	086.0	086.5	087.0	087.5	088.0	088.5
61	083.5	084.0	084.5	085.0	085.5	086.0	086.5	087.0	087.5	088.0
60	083.0	083.5	084.0	084.5	085.0	085.5	086.0	086.5	087.0	087.5
59	082.5	083.0	083.5	084.0	084.5	085.0	085.5	086.0	086.5	087.0
58	082.0	082.5	083.0	083.5	084.0	084.5	085.0	085.5	086.0	086.5
57	081.5	082.0	082.5	083.0	083.5	084.0	084.5	085.0	085.5	086.0
56	081.0	081.5	082.0	082.5	083.0	083.5	084.0	084.5	085.0	085.5
55	080.5	081.0	081.5	082.0	082.5	083.0	083.5	084.0	084.5	085.0
54	080.0	080.5	081.0	081.5	082.0	082.5	083.0	083.5	084.0	
53	079.5	080.0	080.5	081.0	081.5	082.0	082.5	083.0		
52	079.0	079.5	080.0	080.5	081.0	081.5	082.0			
51	078.5	079.0	079.5	080.0	080.5	081.0				
50	078.0	078.5	079.0	079.5	080.0					
49	077.5	078.0	078.5	079.0						
48	077.0	077.5	078.0							
47	076.5	077.0								
46	076.0									

Table 6K. Degree-days for Departures of 116 to 125 (X), and 56 to 85 (Y), from Base Temperature

X \ Y	116	117	118	119	120	121	122	123	124	125
85	100.5	101.0	101.5	102.0	102.5	103.0	103.5	104.0	104.5	105.0
84	100.0	100.5	101.0	101.5	102.0	102.5	103.0	103.5	104.0	104.5
83	099.5	100.0	100.5	101.0	101.5	102.0	102.5	103.0	103.5	104.0
82	099.0	099.5	100.0	100.5	101.0	101.5	102.0	102.5	103.0	103.5
81	098.5	099.0	099.5	100.0	100.5	101.0	101.5	102.0	102.5	103.0
80	098.0	098.5	099.0	099.5	100.0	100.5	101.0	101.5	102.0	102.5
79	097.5	098.0	098.5	099.0	099.5	100.0	100.5	101.0	101.5	102.0
78	097.0	097.5	098.0	098.5	099.0	099.5	100.0	100.5	101.0	101.5
77	096.5	097.0	097.5	098.0	098.5	099.0	099.5	100.0	100.5	101.0
76	096.0	096.5	097.0	097.5	098.0	098.5	099.0	099.5	100.0	100.5
75	095.5	096.0	096.5	097.0	097.5	098.0	098.5	099.0	099.5	100.0
74	095.0	095.5	096.0	096.5	097.0	097.5	098.0	098.5	099.0	099.5
73	094.5	095.0	095.5	096.0	096.5	097.0	097.5	098.0	098.5	099.0
72	094.0	094.5	095.0	095.5	096.0	096.5	097.0	097.5	098.0	098.5
71	093.5	094.0	094.5	095.0	095.5	096.0	096.5	097.0	097.5	098.0
70	093.0	093.5	094.0	094.5	095.0	095.5	096.0	096.5	097.0	097.5
69	092.5	093.0	093.5	094.0	094.5	095.0	095.5	096.0	096.5	097.0
68	092.0	092.5	093.0	093.5	094.0	094.5	095.0	095.5	096.0	096.5
67	091.5	092.0	092.5	093.0	093.5	094.0	094.5	095.0	095.5	096.0
66	091.0	091.5	092.0	092.5	093.0	093.5	094.0	094.5	095.0	095.5
65	090.5	091.0	091.5	092.0	092.5	093.0	093.5	094.0	094.5	095.0
64	090.0	090.5	091.0	091.5	092.0	092.5	093.0	093.5	094.0	
63	089.5	090.0	090.5	091.0	091.5	092.0	092.5	093.0		
62	089.0	089.5	090.0	090.5	091.0	091.5	092.0			
61	088.5	089.0	089.5	090.0	090.5	091.0				
60	088.0	088.5	089.0	089.5	090.0					
59	087.5	088.0	088.5	089.0						
58	087.0	087.5	088.0							
57	086.5	087.0								
56	086.0									

Table 6L. Degree-days for Departures of 126 to 135 (X), and 66 to 95 (Y), from Base Temperature

Y \ X	126	127	128	129	130	131	132	133	134	135
95	110.5	111.0	111.5	112.0	112.5	113.0	113.5	114.0	114.5	115.0
94	110.0	110.5	111.0	111.5	112.0	112.5	113.0	113.5	114.0	114.5
93	109.5	110.0	110.5	111.0	111.5	112.0	112.5	113.0	113.5	114.0
92	109.0	109.5	110.0	110.5	111.0	111.5	112.0	112.5	113.0	113.5
91	108.5	109.0	109.5	110.0	110.5	111.0	111.5	112.0	112.5	113.0
90	108.0	108.5	109.0	109.5	110.0	110.5	111.0	111.5	112.0	112.5
89	107.5	108.0	108.5	109.0	109.5	110.0	110.5	111.0	111.5	112.0
88	107.0	107.5	108.0	108.5	109.0	109.5	110.0	110.5	111.0	111.5
87	106.5	107.0	107.5	108.0	108.5	109.0	109.5	110.0	110.5	111.0
86	106.0	106.5	107.0	107.5	108.0	108.5	109.0	109.5	110.0	110.5
85	105.5	106.0	106.5	107.0	107.5	108.0	108.5	109.0	109.5	110.0
84	105.0	105.5	106.0	106.5	107.0	107.5	108.0	108.5	109.0	109.5
83	104.5	105.0	105.5	106.0	106.5	107.0	107.5	108.0	108.5	109.0
82	104.0	104.5	105.0	105.5	106.0	106.5	107.0	107.5	108.0	108.5
81	103.5	104.0	104.5	105.0	105.5	106.0	106.5	107.0	107.5	108.0
80	103.0	103.5	104.0	104.5	105.0	105.5	106.0	106.5	107.0	107.5
79	102.5	103.0	103.5	104.0	104.5	105.0	105.5	106.0	106.5	107.0
78	102.0	102.5	103.0	103.5	104.0	104.5	105.0	105.5	106.0	106.5
77	101.5	102.0	102.5	103.0	103.5	104.0	104.5	105.0	105.5	106.0
76	101.0	101.5	102.0	102.5	103.0	103.5	104.0	104.5	105.0	105.5
75	100.5	101.0	101.5	102.0	102.5	103.0	103.5	104.0	104.5	105.0
74	100.0	100.5	101.0	101.5	102.0	102.5	103.0	103.5	104.0	
73	099.5	100.0	100.5	101.0	101.5	102.0	102.5	103.0		
72	099.0	099.5	100.0	100.5	101.0	101.5	102.0			
71	098.5	099.0	099.5	100.0	100.5	101.0				
70	098.0	098.5	099.0	099.5	100.0					
69	097.5	098.0	098.5	099.0						
68	097.0	097.5	098.0							
67	096.5	097.0								
66	096.0									
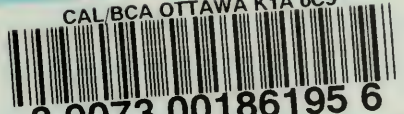
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