Intro to Agriscience
Precision Ag - Lesson 3 - Growing Degree Days Assignment
Answer Key

Using https://www.clemson.edu/extension/publications/files/agronomic-crops/ac09-introduction-to-growing-degree-days.pdf find the base temperatures used in determining Growing Degree Days (GDD) of each of the crops listed below. Enter the base temperature in the column provided. Then using the appropriate formula and the temperatures given, determine GDD Calculation #1, #2 and #3 in the space provided in the table. You must show your work to get credit.

Crop	Base Temp	GDD Calculation #1	GDD Calculation #2	GDD Calculation #3
Barley	32 F	T_{max} = 64 F, T_{min} = 52 F *(64 + 52)/2 = 58* *58 - 32 = 26 GDD*	T_{max} = 92 F, T_{min} = 68 F *(85 + 68)/2 = 76.5* *76.5 - 32 = 44.5 GDD*	T_{max} = 80 F, T_{min} = 71 F *(80 + 71)/2 = 75.5* *75.5 - 32 = 43.5 GDD*
Corn	50 F	T_{max} = 64 F, T_{min} = 52 F *(64 + 52)/2 = 58* *58 - 50 = 8 GDD*	T_{max} = 85 F, T_{min} = 63 F *(85 + 63)/2 = 74* *74 - 50 = 24 GDD*	T_{max} = 101 F, T_{min} = 73 F *(85 + 73)/2 = 79* *79 - 50 = 29 GDD*
Cotton	54 F	T_{max} = 64 F, T_{min} = 52 F *(64 + 52)/2 = 58* *58 - 54 = 4 GDD*	T_{max} = 84 F, T_{min} = 76 F *(84 + 76)/2 = 80* *80 - 54 = 26 GDD*	T_{max} = 98 F, T_{min} = 77 F *(85 + 77)/2 = 81* *81 - 54 = 27 GDD*
Peanuts	48 F	T_{max} = 64 F, T_{min} = 52 F *(64 + 52)/2 = 58* *58 - 48 = 10 GDD*	T_{max} = 71 F, T_{min} = 46 F *(71 + 50)/2 = 60.5* *60.5 - 48 = 12.5 GDD*	T_{max} = 86 F, T_{min} = 65 F *(85 + 65)/2 = 75* *75 - 48 = 27 GDD*

Crop	Base Temp	GDD Calculation #1	GDD Calculation #2	GDD Calculation #3
Soybeans	*50 F*	T_{max} = 64 F, T_{min} = 52 F *(64 + 52)/2 = 58* *58 - 50 = 8 GDD*	T_{max} = 89 F, T_{min} = 73 F *(85 + 73)/2 = 79* *79 - 50 = 29 GDD*	T_{max} = 97 F, T_{min} = 59 F *(85 + 59)/2 = 72* *72 - 50 = 22 GDD*
Wheat	*32 F*	T_{max} = 64 F, T_{min} = 52 F *(64 + 52)/2 = 58* *58 - 32 = 26 GDD*	T_{max} = 71 F, T_{min} = 58 F *(71 + 58)/2 = 64.5* *64.5 - 32 = 32.5 GDD*	T_{max} = 85 F, T_{min} = 75 F *(85 + 75)/2 = 80* *80 - 32 = 48 GDD*