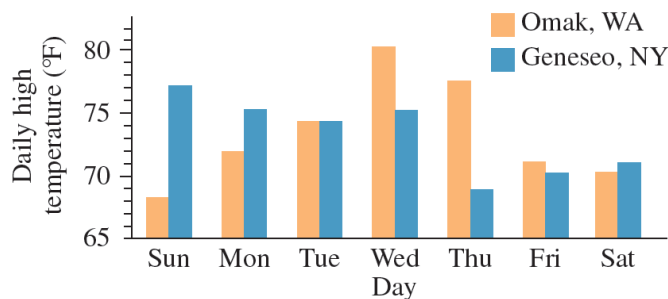


Exercise 86

Temperature Variation The bar graph shows the daily high temperatures for Omak, Washington, and Geneseo, New York, during a certain week in June. Let T_O represent the temperature in Omak and T_G the temperature in Geneseo. Calculate $T_O - T_G$ and $|T_O - T_G|$ for each day shown. Which of these two values gives more information?



Solution

On Sunday, $T_O = 68^\circ\text{F}$ and $T_G = 77^\circ\text{F}$. Therefore, $T_O - T_G = -9^\circ\text{F}$ and $|T_O - T_G| = 9^\circ\text{F}$.

On Monday, $T_O = 72^\circ\text{F}$ and $T_G = 75^\circ\text{F}$. Therefore, $T_O - T_G = -3^\circ\text{F}$ and $|T_O - T_G| = 3^\circ\text{F}$.

On Tuesday, $T_O = 74^\circ\text{F}$ and $T_G = 74^\circ\text{F}$. Therefore, $T_O - T_G = 0^\circ\text{F}$ and $|T_O - T_G| = 0^\circ\text{F}$.

On Wednesday, $T_O = 80^\circ\text{F}$ and $T_G = 75^\circ\text{F}$. Therefore, $T_O - T_G = 5^\circ\text{F}$ and $|T_O - T_G| = 5^\circ\text{F}$.

On Thursday, $T_O = 78^\circ\text{F}$ and $T_G = 69^\circ\text{F}$. Therefore, $T_O - T_G = 9^\circ\text{F}$ and $|T_O - T_G| = 9^\circ\text{F}$.

On Friday, $T_O = 71^\circ\text{F}$ and $T_G = 70^\circ\text{F}$. Therefore, $T_O - T_G = 1^\circ\text{F}$ and $|T_O - T_G| = 1^\circ\text{F}$.

On Saturday, $T_O = 70^\circ\text{F}$ and $T_G = 71^\circ\text{F}$. Therefore, $T_O - T_G = -1^\circ\text{F}$ and $|T_O - T_G| = 1^\circ\text{F}$.

$T_O - T_G$ gives more information because we can tell which city has the higher temperature based on whether the difference is negative or positive.