

- 12. Meteorology** The mean average temperature in Buffalo, New York, is 47.5° .
 The temperature fluctuates 23.5° above and below the mean temperature. If
 $t = 1$ represents January, the phase shift of the sine function is 4.

$$\text{P.S.} = 4$$

$$\text{Amp} = 23.5$$

$$\text{V.S.} = 47.5$$

$$\text{Per} = 12$$

$$12 = \frac{2\pi}{K} \quad \frac{\pi}{6} \cdot 4 = \frac{C}{\pi/6} \cdot \frac{\pi}{6}$$

$$K = \frac{\pi}{6}$$

$$\frac{4\pi}{6} = C$$

$$\frac{2\pi}{3} = C$$

$$Y = A \sin(Kt - c) + h$$

$$Y = 23.5 \sin\left(\frac{\pi}{6}t - \frac{2\pi}{3}\right) + 47.5$$

$$\text{c. } 67.9^\circ$$

b.

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