

**49** (a) The maximum monthly average temperature is found at the peak of the graph:  $y = 40^\circ \text{ F}$ .

The minimum monthly average temperature is found at the “valley” of the graph:  $y = -40^\circ \text{ F}$ .

(b) The amplitude is  $0.5(40 - (-40)) = 40$ . This represents a total temperature swing from  $-40^\circ \text{ F}$  to  $40^\circ \text{ F}$ .

Since the average temperatures are cyclic, repeating every 12 months, the period is 12.

(c) The  $x$ -intercepts represent the months in which the average temperature is  $0^\circ \text{ F}$  (April and October).