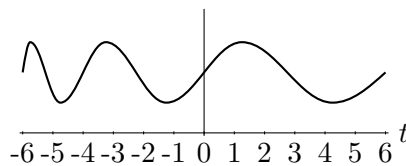
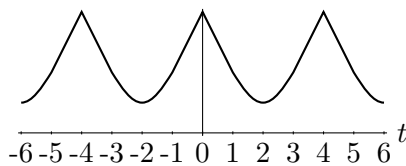
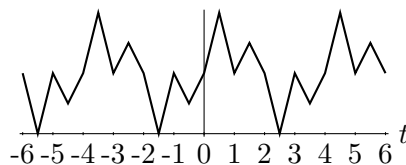
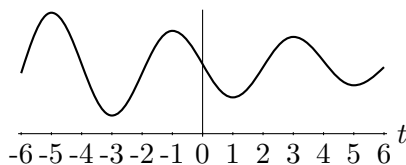
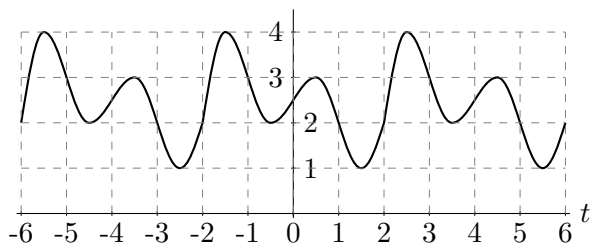


3. [17 points]

a. [4 points] Circle all graphs in which the graphed function appears to be periodic with more than one period shown.



b. [2 points] Find the period of the function in the following graph:



The period is _____.

c. [5 points] Find the midline and amplitude of the function graphed in **b**.

The midline is _____.

The amplitude is _____.

For parts **d.** and **e.** suppose $C(t)$ is the total number of calls received by a call center t hours after 8:00am on a normal day. Each sentence describes the number of calls the center receives on a particular day; circle the expression that corresponds to the given description.

d. [3 points] “The call center received 20 more calls than normal right at the beginning of the day, but otherwise it was a normal day.”

- $C(t) + 20$
 $C(t + 20)$
 $20C(t)$
 $C(20t)$
 None of these

e. [3 points] “The center was closed until noon, and at all times during the afternoon the call volume was twice what it normally would have been 4 hours earlier.”

- $2C(t + 4)$
 $C(2t + 8)$
 $C(2t + 4)$
 $2C(t - 4)$
 None of these