EX: Fill in the following table with check marks for the functions shown below.

| The function is odd |  |  |  |
| :--- | :--- | :---: | :---: |
| The function is even |  |  |  |
| The function has shift-flip symmetry |  |  |  |
| $\mathrm{a}_{\mathrm{v}}=0$ (DC offset) |  |  |  |
| All the $\mathrm{a}_{\mathrm{k}}$ are zero (not including $\mathrm{a}_{\mathrm{v}}$ ) |  |  |  |
| All $\mathrm{b}_{\mathrm{k}}$ are zero for even-numbered subscripts |  |  |  |
| $t$ |  |  |  |

(a)

(c)
(d)

(b)


ANS:

|  | (a) | (b) | (c) | (d) |
| :--- | :---: | :---: | :---: | :---: |
| The function is odd | $\sqrt{ }$ |  |  |  |
| The function is even |  | $\sqrt{ }$ |  | $\sqrt{ }$ |
| The function has shift-flip symmetry |  |  | $\sqrt{ }$ | $\sqrt{ }$ |
| $\mathrm{a}_{\mathrm{v}}=0$ (DC offset) | $\sqrt{ }$ |  | $\sqrt{ }$ | $\sqrt{ }$ |
| All the $\mathrm{a}_{\mathrm{k}}$ are zero (not including $\mathrm{a}_{\mathrm{V}}$ ) | $\sqrt{ }$ | $\sqrt{ }$ |  |  |
| All $\mathrm{b}_{\mathrm{k}}$ are zero for even-numbered subscripts |  | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |

