**Use a graph of each function to estimate the indicated function values.**

|  |  |  |  |
| --- | --- | --- | --- |
| **1.** |  | **2.** |  |
|  |  |  |  |
|  |  |  |  |

**Use the graph of each function to approximate its y –intercept. Then find the y –intercept algebraically.**

|  |  |  |  |
| --- | --- | --- | --- |
| **3.** |  | **4.** |  |
|  |  |  |  |
|  |  |  |  |
| **5.** |  | **6.** |  |
|  |  |  |  |
|  |  |  |  |

**Use the graph of each function to approximate its zeros. Then find the zeros of each function algebraically.**

|  |  |  |
| --- | --- | --- |
| **7.** |  |  |
|  |  |  |
| **8.** |  |  |
|  |  |  |
| **9.** |  |  |
|  |  |  |

**Use the graph of each equation to test for symmetry with respect to the x -axis, y -axis, and the origin. Support the answer numerically. Then confirm algebraically.**

|  |  |  |
| --- | --- | --- |
| **10.** |  |  |
|  |  | **Graphically**  **Support Numerically**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  |   **Algebraically** |
| **11.** |  |  |
|  |  | **Graphically**  **Support Numerically**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  |   **Algebraically** |

|  |  |  |
| --- | --- | --- |
| **12.** |  |  |
|  |  | **Graphically** |
|  | **Symmetric with respect to** -**axis** |  |
|  | **Algebraically** | **Support Numerically**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |
|  | **Symmetric with respect to** -**axis** |  |
|  | **Algebraically** | **Support Numerically**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |
|  | **Symmetric with respect to** **origin** |  |
|  | **Algebraically** | **Support Numerically**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

**Determine whether the following are even, odd, or neither.**

|  |  |  |
| --- | --- | --- |
| **13.** |  |  |
| **14.** |  |  |
| **15.** |  |  |

**SOLVE REAL WORLD PROBLEM**

|  |  |  |
| --- | --- | --- |
| **16.** | The temperaturein degrees Fahrenheithours after 6 AM is given by  Find **,** andgraphically and algebraically. | |
|  | **Graphically** | **Algebraically** |

**ANSWERS**

**Use a graph of each function to estimate the indicated function values.**

|  |  |  |  |
| --- | --- | --- | --- |
| **1.** |  | **2.** |  |
|  |  |  |  |
|  |  |  |  |

**Use the graph of each function to approximate its y –intercept. Then find the y –intercept algebraically.**

|  |  |  |  |
| --- | --- | --- | --- |
| **3.** |  | **4.** |  |
|  |  |  |  |
|  | -intercept occurs where . |  | -intercept occurs where . |
| **5.** |  | **6.** |  |
|  |  |  |  |
|  | -intercept occurs where . |  | -intercept occurs where . |

**Use the graph of each function to approximate its zeros. Then find the zeros of each function algebraically.**

|  |  |  |
| --- | --- | --- |
| **7.** |  |  |
|  |  |  |
| **8.** |  |  |
|  |  |  |
| **9.** |  |  |
|  |  |  |

**Use the graph of each equation to test for symmetry with respect to the x -axis, y -axis, and the origin. Support the answer numerically. Then confirm algebraically.**

|  |  |  |
| --- | --- | --- |
| **10.** |  |  |
|  |  | **Graphically**  The graph appears to be symmetric with respect to the –axis because for every point ***(*** on the graph, there is a point (  **Support Numerically**  There is a table of values to support this conjecture.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  |   **Algebraically**  Becauseis equivalent to **,** the graphis symmetric with respect to the –axis**.** |
| **11.** |  |  |
|  |  | **Graphically**  The graph appears to be symmetric with respect to the **origin** because for every point ***(*** on the graph, there is a point (  **Support Numerically**  There is a table of values to support this conjecture.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  |   **Algebraically**  Becauseis equivalent to **,** the graphis symmetric with respect to the **origin.** |

|  |  |  |
| --- | --- | --- |
| **12.** |  |  |
|  |  | **Graphically**  The graph appears to be:   * symmetric with respect to the -**axis** because for every point ***(*** on the graph, there is a point ( * symmetric with respect to the -**axis** because for every point ***(*** on the graph, there is a point ( * symmetric with respect to the **origin** because for every point ***(*** on the graph, there is a point ( |
|  | **Symmetric with respect to** -**axis** |  |
|  | **Algebraically**  Becauseis equivalent to **,** the graphis symmetric with respect to -**axis.** | **Support Numerically**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |
|  | **Symmetric with respect to** -**axis** |  |
|  | **Algebraically**  Becauseis equivalent to **,** the graphis symmetric with respect to the –**axis.** | **Support Numerically**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |
|  | **Symmetric with respect to** **origin** |  |
|  | **Algebraically**  Becauseis equivalent to **,** the graphis symmetric with respect to the **origin.** | **Support Numerically**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

**Determine whether the following are even, odd, or neither.**

|  |  |  |
| --- | --- | --- |
| **13.** |  | **The function is odd.** |
| **14.** |  | **The function is even.** |
| **15.** |  | **The function is neither** |

**SOLVE REAL WORLD PROBLEM**

|  |  |  |
| --- | --- | --- |
| **16.** | The temperaturein degrees Fahrenheithours after 6 AM is given by  Find **,** andgraphically and algebraically. | |
|  | **Graphically** | **Algebraically** |