|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Which of the following is the correct graph of ?​

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | ​ | b.  | ​ |
|   | c.  | ​ | d.  | ​ |
|   | e.  | ​ |  |  |

|  |  |
| --- | --- |
| *ANSWER:* | b |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | LCalc11.0.1.1 - Sketch the graph of an equation. |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2. Which of the following is the correct graph of ?​

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | ​ | b.  | ​ |
|   | c.  | ​ | d.  | ​ |
|   | e.  | ​ |  |  |

|  |  |
| --- | --- |
| *ANSWER:* | b |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | CALC.01.1 - Sketch the graph of an equation. |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3. Find all intercepts:​ ​

|  |  |  |
| --- | --- | --- |
|   | a.  | *x*-intercepts: , ; *y*-intercepts: ,  |
|   | b.  | *x*-intercept: ; *y*-intercepts: ,  |
|   | c.  | *x*-intercepts: , ; *y*-intercept:  |
|   | d.  | *x*-intercepts: , ; *y*-intercepts: ,  |
|   | e.  | *x*-intercept: ; *y*-intercept:  |

|  |  |
| --- | --- |
| *ANSWER:* | c |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | LCalc11.0.1.2 - Find the intercepts of a graph. |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4. Find all intercepts:​ ​

|  |  |  |
| --- | --- | --- |
|   | a.  | *x*-intercepts: , , ; *y*-intercepts: ,  |
|   | b.  | *x*-intercepts: , ; *y*-intercept:  |
|   | c.  | *x*-intercepts: , ; *y*-intercept:  |
|   | d.  | *x*-intercepts: , , ; *y*-intercept:  |
|   | e.  | *x*-intercepts: , , ; *y*-intercept:  |

|  |  |
| --- | --- |
| *ANSWER:* | d |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | LCalc11.0.1.2 - Find the intercepts of a graph. |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5. Test for symmetry with respect to each axis and to the origin.​ ​

|  |  |  |
| --- | --- | --- |
|   | a.  | symmetric with respect to the origin |
|   | b.  | symmetric with respect to the *x*-axis |
|   | c.  | symmetric with respect to the *y*-axis |
|   | d.  | no symmetry |
|   | e.  | choices a, b, and c |

|  |  |
| --- | --- |
| *ANSWER:* | e |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | LCalc11.0.1.3 - Test a graph for symmetry with respect to an axis and the origin. |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6. Test for symmetry with respect to each axis and to the origin.​ ​

|  |  |  |
| --- | --- | --- |
|   | a.  | symmetric with respect to the origin |
|   | b.  | symmetric with respect to the *y*-axis |
|   | c.  | symmetric with respect to the *x*-axis |
|   | d.  | both B and C |
|   | e.  | no symmetry |

|  |  |
| --- | --- |
| *ANSWER:* | a |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | LCalc11.0.1.3 - Test a graph for symmetry with respect to an axis and the origin. |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7. Sketch the graph of the equation:​ ​

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | ​ | b.  | ​ |
|   | c.  | ​ | d.  | ​ |
|   | e.  | ​ |  |  |

|  |  |
| --- | --- |
| *ANSWER:* | b |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | CALC.0.1.1 - Sketch the graph of an equation. |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8. Sketch the graph of the equation:​ ​

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | ​ | b.  | ​ |
|   | c.  | ​ | d.  | ​ |
|   | e.  | none of the above |  |  |

|  |  |
| --- | --- |
| *ANSWER:* | d |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Medium |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | CALC006 - Graph an absolute value equation |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9. Find the points of intersection of the graphs of the equations:​ ​

|  |  |  |
| --- | --- | --- |
|   | a.  | ,  |
|   | b.  | ​,  |
|   | c.  | ​,  |
|   | d.  | ​,  |
|   | e.  | ​,  |

|  |  |
| --- | --- |
| *ANSWER:* | c |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Medium |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multi-Mode (Multiple choice) |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | LCalc11.0.1.4 - Find the points of intersection of two graphs. |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10. The resistance *y* in ohms of 1000 feet of solid metal wire at 77°F can be approximated by the model , , where *x* is the diameter of the wire in mils (0.001 in). Use a graphing utility to graph the model , .​

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | ​ | b.  | ​ |
|   | c.  | ​ | d.  | ​ |
|   | e.  | ​ |  |  |

|  |  |
| --- | --- |
| *ANSWER:* | b |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Medium |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | LCalc11.0.1.5 - Interpret mathematical models for real-life data. |
| *OTHER:* | Application |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11. The resistance *y* in ohms of 1000 feet of solid metal wire at 77°F can be approximated by the model , , where *x* is the diameter of the wire in mils (0.001 in). If the diameter of the wire is doubled, the resistance is changed by approximately what factor? In determining your answer, you can ignore the constant –0.47.​

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  | 4 |
|   | d.  | 3 |
|   | e.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | e |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Medium |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multi-Mode (Multiple choice) |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | CALC009 - Interpret a rational model |
| *OTHER:* | Application |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12. Test for symmetry with respect to each axis and to the origin.​ ​

|  |  |  |
| --- | --- | --- |
|   | a.  | symmetric with respect to the origin |
|   | b.  | symmetric with respect to the *y*-axis |
|   | c.  | symmetric with respect to the *x*-axis |
|   | d.  | both B and C |
|   | e.  | no symmetry |

|  |  |
| --- | --- |
| *ANSWER:* | b |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | LCalc11.0.1.3 - Test a graph for symmetry with respect to an axis and the origin. |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13. Test for symmetry with respect to each axis and to the origin.​ ​

|  |  |  |
| --- | --- | --- |
|   | a.  | symmetric with respect to the origin |
|   | b.  | symmetric with respect to the *x*-axis |
|   | c.  | symmetric with respect to the *y*-axis |
|   | d.  | no symmetry |
|   | e.  | A, B, and C |

|  |  |
| --- | --- |
| *ANSWER:* | b |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | LCalc11.0.1.3 - Test a graph for symmetry with respect to an axis and the origin. |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14. Find all intercepts:​ ​

|  |  |  |
| --- | --- | --- |
|   | a.  | *x*-intercepts: , , ; *y*-intercept:  |
|   | b.  | *x*-intercepts: , ; *y*-intercept:  |
|   | c.  | *x*-intercepts: , , ; *y*-intercept:  |
|   | d.  | *x*-intercepts: , ; *y*-intercept:  |
|   | e.  | *x*-intercepts: , , ; *y*-intercept:  |

|  |  |
| --- | --- |
| *ANSWER:* | c |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | LCalc11.0.1.2 - Find the intercepts of a graph. |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15. Sketch the graph of the equation:​ ​

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | a.  | ​ | b.  | ​ |
|   | c.  | ​ | d.  | ​ |
|   | e.  | none of the above |  |  |

|  |  |
| --- | --- |
| *ANSWER:* | d |
| *POINTS:* | 1 |
| *DIFFICULTY:* | Easy |
| *REFERENCES:* | Section 0.1 |
| *QUESTION TYPE:* | Multiple Choice |
| *HAS VARIABLES:* | True |
| *LEARNING OBJECTIVES:* | CALC010 - Graph an equation in y |
| *OTHER:* | Skill |
| *DATE CREATED:* | 1/11/2017 10:02 AM |
| *DATE MODIFIED:* | 1/11/2017 10:02 AM |

 |