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| 1. Determine whether the value of  is a solution of the inequality.  ​   |  |  |  | | --- | --- | --- | |  | a. | Yes | |  | b. | No |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.5 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/16/2015 3:00 AM | |

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| 2. Determine whether the value of  is a solution of the inequality.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | No | |  | b. | Yes |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.6 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/16/2015 3:01 AM | |

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| 3. Determine whether the value of  is a solution of the inequality.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | Yes | |  | b. | No |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.8 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/16/2015 3:02 AM | |

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| 4. Find the key numbers of the expression.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | 0, | |  | b. | 0, 49 | |  | c. | 0, 51 | |  | d. | 0, –49 | |  | e. | 0, |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.10 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 4:17 AM | |

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| 5. Find the key numbers of the expression.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | –6, 7 | |  | b. | 6, 7, 1 | |  | c. | –6, –7 | |  | d. | 6, 7 | |  | e. | 6, –7 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.11 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 4:20 AM | |

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| 6. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.13 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 1:02 AM | |

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| 7. Solve the inequality and graph the solution on the real number line.  ​  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. | ​ | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.14 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 7:02 AM | |

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| 8. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.16 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 1:17 AM | |

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| 9. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. | ​ | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.18 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 1:34 AM | |

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| 10. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.19 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 1:57 AM | |

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| 11. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.20 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 2:17 AM | |

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| 12. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.22 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 2:33 AM | |

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| 13. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.25 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 2:43 AM | |

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| 14. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.26 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 2:58 AM | |

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| 15. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.27 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 3:30 AM | |

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| 16. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.29 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 4:03 AM | |

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| 17. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. | All real numbers |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.30 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 4:15 AM | |

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| 18. Solve the inequality and write the solution set in interval notation.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.31 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 4:22 AM | |

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| 19. Solve the inequality and write the solution set in interval notation.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.32 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 4:30 AM | |

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| 20. Solve the inequality and write the solution set in interval notation.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.33 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 4:39 AM | |

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| 21. Solve the inequality and write the solution set in interval notation.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.36 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 4:44 AM | |

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| 22. Use a graphing utility to graph the equation. Use the graph to approximate the values of *x* that satisfy the inequality.  ​  *Equation:*  ​  *Inequality:*  ​   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | ​ | b. | ​ | |  | c. | ​ | d. | ​ | |  | e. | ​ |  |  |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.38 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 6:52 AM | |

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| 23. Use a graphing utility to graph the equation. Use the graph to approximate the values of *x* that satisfy the inequality.  ​  *Equation:*  ​  *Inequality:*  ​   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | ​ | b. | ​ | |  | c. | ​ | d. | ​ | |  | e. | ​ |  |  |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.40a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 7:37 AM | |

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| 24. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.41 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 8:37 AM | |

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| 25. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | (] | |  | b. | (] | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.43 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 8:55 AM | |

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| 26. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.45 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 9:09 AM | |

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| 27. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.47 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 9:21 AM | |

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| 28. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.50 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 9:42 AM | |

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| 29. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.51 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 10:13 AM | |

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| 30. Solve the inequality and graph the solution on the real number line.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.52 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 10:26 AM | |

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| 31. Use a graphing utility to graph the equation. Use the graph to approximate the values of *x* that satisfy the inequality.  ​  *Equation:*  ​  *Inequality:*  ​   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | ​ | b. | ​ | |  | c. | ​ | d. | ​ | |  | e. | ​ |  |  |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.55 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/16/2021 11:03 AM | |

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| 32. Use a graphing utility to graph the equation. Use the graph to approximate the values of *x* that satisfy the inequality.  ​  *Equation:*  ​  *Inequality:*  ​   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. |  | b. |  | |  | c. | ​ | d. |  | |  | e. |  |  |  |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.56a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 2:18 AM | |

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| 33. Use a graphing utility to graph the equation. Use the graph to approximate the values of *x* that satisfy the inequality.  ​  *Equation:*  ​  *Inequality:*  ​   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | ​ | b. | ​ | |  | c. | ​ | d. | ​ | |  | e. | ​ |  |  |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.57b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 2:54 AM | |

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| 34. Use a graphing utility to graph the equation. Use the graph to approximate the values of *x* that satisfy the following inequality.  ​  *Equation:*  ​  *Inequality:*  ​   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. | ​ | b. | ​ | |  | c. | ​ | d. | ​  No solutions exist. | |  | e. | ​ |  |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.58a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 3:41 AM | |

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| 35. Find the domain of *x* in the expression.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.59 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/25/2014 10:12 AM | |

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| 36. Find the domain of *x* in the expression.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.60 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/13/2015 8:46 AM | |

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| 37. Find the domain of *x* in the expression.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.61 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 3:49 AM | |

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| 38. Find the domain of *x* in the expression.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.62 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 4:00 AM | |

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| 39. Find the domain of *x* in the expression.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.63 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/25/2014 4:52 AM | |

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| 40. Find the domain of *x* in the expression.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.64 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 4:06 AM | |

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| 41. Use  the position equation  , where *s* represents the height of an object (in feet),  represents the initial velocity of the object (in feet per second),  represents the initial height of the object (in feet), and *t* represents the time (in seconds).  A projectile is fired straight upward from ground level  with an initial velocity of  176 feet per second. At what instant will it be back at ground level?  ​   |  |  |  | | --- | --- | --- | |  | a. | Sec | |  | b. | Sec | |  | c. | Sec | |  | d. | Sec | |  | e. | Sec |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.71a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 4:10 AM | |

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| 42. Use  the position equation  , where *s* represents the height of an object (in feet),  represents the initial velocity of the object (in feet per second),  represents the initial height of the object (in feet), and *t* represents the time (in seconds).  A projectile is fired straight upward from ground level  with an initial velocity of  160 feet per second. At what instant will it be back at ground level?  ​   |  |  |  | | --- | --- | --- | |  | a. | Sec | |  | b. | Sec | |  | c. | Sec | |  | d. | Sec | |  | e. | Sec |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.72a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/16/2015 3:10 AM | |

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| 43. A rectangular playing field with a perimeter of 96 meters is to have an area of at least 407 square meters. Within what bounds must the length of the rectangle lie?  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.73 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 4:20 AM | |

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| 44. A rectangular parking lot with a perimeter of 440 feet is to have an area of at least 8004 square feet. Within what bounds must the length of the rectangle lie?  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.74 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 4:37 AM | |

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| 45. The numbers *N* (in millions) of students enrolled in schools in the United States from 1995 through 1997 are shown in the table.  ​   |  |  | | --- | --- | | Year | Number, *N* | | 1995 | 70.2 | | 1996 | 71.3 | | 1997 | 73 |   ​  ​  Use a graphing utility to create a scatter plot of the data. Let *t* represent the year, with *t* = 5 corresponding to 1995, *t* = 10 corresponding to 1996, and *t* = 15 corresponding to 1997.  ​   |  |  |  | | --- | --- | --- | |  | a. | ​ | |  | b. | ​ | |  | c. | ​ | |  | d. | ​ | |  | e. | ​ |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.77a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 5:05 AM | |

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| 46. When two resistors of resistances  and are connected in parallel (see figure), the total resistance  satisfies the equation  ​  .  Find  for a parallel circuit in which  ohms and *R* must be at least 1 ohm.  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.79 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/16/2015 3:07 AM | |

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| 47. Determine whether the statement is true or false. Justify your answer.    The solution set of the inequality  is the entire set of real numbers.  ​   |  |  |  | | --- | --- | --- | |  | a. | False, the *y* -values are less than zero for all values of *x*. | |  | b. | True, the *y* -values are greater than zero for all values of *x*. |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.82 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 6:16 AM | |

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| 48. Find the interval(s) for *b* such that the following equation has at least one real solution  ​  .  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.83a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 6:26 AM | |

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| 49. Find the interval(s) for *b* such that the following equation has at least one real solution and write a conjecture about the interval(s) based on the values of the coefficients  ​  .  ​   |  |  |  | | --- | --- | --- | |  | a. | If  and ,  or | |  | b. | If  and ,  or | |  | c. | If  and ,  is all real numbers. | |  | d. | If  and ,  or | |  | e. | If  and ,  is all real numbers. |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.85 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 6:33 AM | |

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| 50. Find the interval(s) for *b* such that the equation has at least one real solution and write a conjecture about the interval(s) based on the values of the coefficients  ​  .  ​   |  |  |  | | --- | --- | --- | |  | a. | If  and , | |  | b. | If  and , | |  | c. | If  and ,  or | |  | d. | If  and ,  is all real numbers | |  | e. | If  and , |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 1.8.86 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 6:32 AM | |

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| 51. Determine the intervals on which the following polynomial is entirely negative and those on which it is entirely positive.   |  |  |  | | --- | --- | --- | |  | a. | entirely negative: ;  entirely positive: | |  | b. | entirely negative:  ;  entirely positive: | |  | c. | entirely negative: ;  entirely positive: | |  | d. | entirely negative: ;  entirely positive: | |  | e. | entirely negative: ;  entirely positive: |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Medium | | *REFERENCES:* | 47-52 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *LEARNING OBJECTIVES:* | PREC.LARS.16.106 - Identify intervals where graph is entirely positive and/or negative | | *TOPICS:* | 2.6 | | *KEYWORDS:* | 2.6.52 | | *NOTES:* | Skill | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 6:46 AM | |

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| 52. Solve: .   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Medium | | *REFERENCES:* | 53-62 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *LEARNING OBJECTIVES:* | PREC.LARS.16.104 - Solve inequality | | *TOPICS:* | 2.6 | | *KEYWORDS:* | 2.6.60 | | *NOTES:* | Skill | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 6:47 AM | |

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| 53. Solve the inequality  and write the solution set in interval notation.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *DIFFICULTY:* | Medium | | *REFERENCES:* | 53-62 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *LEARNING OBJECTIVES:* | PREC.LARS.16.104 - Solve inequality | | *TOPICS:* | 2.6 | | *KEYWORDS:* | 2.6.61 | | *NOTES:* | Skill | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/16/2015 3:26 AM | |

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| 54. Find the domain of *x* in the following expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. | all real numbers |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *DIFFICULTY:* | Medium | | *REFERENCES:* | 73-78 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *LEARNING OBJECTIVES:* | PREC.LARS.16.107 - Solve for the domain of an expression | | *TOPICS:* | 2.6 | | *KEYWORDS:* | 2.6.76 | | *NOTES:* | Skill | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/25/2014 9:53 AM | |

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| 55. Find the domain of *x* in the expression .   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *DIFFICULTY:* | Medium | | *REFERENCES:* | 73-78 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *LEARNING OBJECTIVES:* | PREC.LARS.16.107 - Solve for the domain of an expression | | *TOPICS:* | 2.6 | | *KEYWORDS:* | 2.6.73 | | *NOTES:* | Skill | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/16/2015 3:27 AM | |

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| 56. Find the domain of *x* in the expression .  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *STUDENT ENTRY MODE:* | Basic | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/17/2021 6:49 AM | |