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| 1. Rationalize the numerator of the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 2. Rationalize the denominator of the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 3. Rationalize the denominator of the expression.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 4. Perform the indicated operations and simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 5. Simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 6. Find the real roots of the equation by factoring.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 7. Perform the indicated operations and simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 8. Rationalize the numerator of the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 9. Rationalize the numerator of the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 10. Rationalize the denominator of the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 11. Perform the indicated operations and simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 12. Perform the indicated operations and simplify the expression.      |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 13. Perform the indicated operations and simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 14. Perform the indicated operations and simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 15. Simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 16. Solve the equation by using the quadratic formula.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 17. Find the real roots of the equation by factoring.   |  |  |  | | --- | --- | --- | |  | a. | 4 and -9 | |  | b. | 5 and -9 | |  | c. | 4 and -8 | |  | d. | 5 and -8 | |  | e. | 3 and -6 |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 18. Find the real roots of the equation by factoring.   |  |  |  | | --- | --- | --- | |  | a. | 3 and -2 | |  | b. | 1 and -4 | |  | c. | -3 and -3 | |  | d. | 4 and -3 | |  | e. | 4 and 2 |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 19. Perform the indicated operations and simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 20. Perform the indicated operations and simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 21. Perform the indicated operations and simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 22. Factor the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 23. Factor the expression.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 24. Expand the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 25. Factor out the greatest common factor from the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 26. Factor out the greatest common factor from the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 27. Perform the indicated operations and simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 28. Perform the indicated operations and simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 29. Perform the indicated operations and simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 30. Perform the indicated operations and simplify the expression.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | |

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| 31. Perform the indicated operations and simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 32. Simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 33. Perform the indicated operations and simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 34. Rationalize the denominator of the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 35. Rationalize the numerator of the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 36. Perform the indicated operations and simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 37. Rationalize the numerator of the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 38. Rationalize the numerator of the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 39. Rationalize the denominator of the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 40. Perform the indicated operations and simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 41. Perform the indicated operations and simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 42. Perform the indicated operations and simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 43. Simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 44. Solve the equation by using the quadratic formula.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 45. Perform the indicated operations and simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 46. Factor the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 47. Factor the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 48. Factor out the greatest common factor from the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 49. Factor out the greatest common factor from the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 50. Perform the indicated operations and simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 51. Perform the indicated operations and simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 52. Perform the indicated operations and simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 53. Perform the indicated operations and simplify the expression.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 54. Find the real roots of the equation by factoring.   |  |  | | --- | --- | | *ANSWER:* |  | |

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| 55. Find the real roots of the equation by factoring.   |  |  | | --- | --- | | *ANSWER:* |  | |