Solve each equation.

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| --- | --- | --- |
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|  |  |  |

Find each product.

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| --- | --- | --- |
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|  |  |  |

Write each expression in radical form. Do not evaluate.

|  |  |  |
| --- | --- | --- |
|  |  |  |

Write each expression in exponential form. Do not evaluate.

|  |  |  |
| --- | --- | --- |
|  | 17. | 18. |

Simplify each expression and then determine whether each answer is rational or irrational.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 19. | 20. | 21. | 22. | 23. |

Evaluate. Round to 2 decimal places if necessary.

|  |  |  |
| --- | --- | --- |
| 24. | 25. | 26. |

|  |  |
| --- | --- |
| 27. A population of bacteria is growing rapidly. The population at any hour, h, can be represented using the function . What is the population of bacteria after hours? | 28. A car loses value each year. The value of the car t years from today can be modeled using the function . If Elizabeth wants to sell her car in years, what will the car’s value be when she sells it? |

Use the properties of exponents to simplify the expressions. Your answer should contain only positive exponents. Do not evaluate.

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| --- | --- | --- | --- | --- |
| 29. | 30. | 31. | 32. | 33. |

Simplify each expression and then determine whether each answer is rational or irrational.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 34. | 35. | 36. | 37. | 38. |

Solve each equation. Round to the nearest hundredth.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 39. | 40. | 41. | 42. | 43. |

|  |  |
| --- | --- |
| 43. Mia is tracking her savings account balance. She knows the equation can be used to find her balance y in any year t, but she can’t remember what p represents. Her balance today, years after opening her account is $9,905.54. What is the value of p? | 44. A new fashion trend is catching on at a high school. Five students came to school after the holidays wearing new Palioxis-brand sneakers and 6 months later, 35 total students were wearing Palioxis sneakers. In the equation , y is the number of students wearing the sneakers after time t in years. Find r. |

Simplify

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| --- | --- | --- | --- |
| 45. | 46. | 47. | 48. |
| 49. | 50. | 51. | 52. |
| 53. | 54. | 55. | 56. |
| 57. | 58. | 59. | 60. |