NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

PER\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ PRACTICE TEST 7

For problems 1-2, tell whether the function shows a growth or decay. Then graph it.

|  |  |
| --- | --- |
| 1)  no axes | 2)  no axes |
| 3) Which function shows the value of a $2500 investment  after it has grown by 4.5% per year for 12 years. Answer\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  A)  B)  C)  D) | |

For problem 4, graph the relation. Then, graph the inverse.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| no axes4)   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ***x*** | -4 | -2 | 0 | 2 | 4 | | ***y*** | -2 | -1 | 0 | 1 | 2 | |

For problems 5-6,write the inverse of each function.

|  |  |
| --- | --- |
| 5) | 6) |

For problems 7-8, write the exponential equation in logarithmic form.

|  |  |
| --- | --- |
| 7) | 8) |

For problems 9-10, write the logarithmic equation in exponential form.

|  |  |
| --- | --- |
| 9) | 10) |

For problems 11-12, express as a single logarithm. Simplify, if possible.

|  |  |
| --- | --- |
| 11) | 12) |

For problems 13-14 simplify each expression.

|  |  |
| --- | --- |
| 13) | 14) |

For problems 15-16, evaluate.

|  |  |
| --- | --- |
| 15) | 16) |

For problems 17-20, solve and check your answer.

|  |  |
| --- | --- |
| 17) | 18) |
| 19) | 20) |

For problems 21-22, simplify.

|  |  |
| --- | --- |
| 21) | 22) |
| 23) What is the total value of an investment of $5000 that earned 6% interest compounded continuously for 5 years? (use A = ) | |

For problem 24-26, write each transformed function.

|  |
| --- |
| 24) The function  is translated 4 units right and then reflected across the *x*-axis. |
| 25) The function  is translated 12 units right, and then vertically compressed by a factor of . |
| 26) The function  is horizontally stretched by a factor of 3, and then reflected across the *y*-axis. |

For problems 27-28, make a table of values and graph each function. Describe the asymptote. Tell how the graph is transformed from the parent function,

|  |  |
| --- | --- |
| 27)  no axes | no axes28) |