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| --- | --- |
| **1** | Solve for *x*:  |
|  | **A** | *x* = 5 | **C** | *x* = 6 |
|  | **B** | *x* = 36 | **D** | *x* = 12 |

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| **2** | Write an exponential function for the graph pictured. |
|  | **A** |  | **C** |  |
|  | **B** |  | **D** |  |

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| **3** | The value of an object decreases by 15% each year. The value of the object can be modeled with the equation *A* = *P* (0.85)*t*, where *P* is the original value and *A* is the value after *t* years. If the original value of the object is $200,000, in how many years will it be worth $122,825.? |
|  | **A** |  ½ year | **C** |  1 year |
|  | **B** |  2 years | **D** |  3 years |

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| **4** | The half-life of a certain radioactive material is 5 days. An initial amount of the material has a mass of 20kg. Which graph represents how much of the substance is left after x days?  |
|  | **A** |  | **C** |  |
|  | **B** |  | **D** |  |

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| **5** | Which equation is the same as 3 = 1000b? |
|  | **A** |  | **C** |  |
|  | **B** |  | **D** |  |

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| **6** | What is the inverse of  |
|  | **A** |  | **C** |  |
|  | **B** |  | **D** |  |

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| **7** | Write the equation  in exponential form  |
|  | **A** |  | **C** |  |
|  | **B** |  | **D** |  |

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| **8** | Solve for x: log3x = 5.  |
|  | **A** | x = 15 | **C** | x = 243  |
|  | **B** | x = 125 | **D** | x = 8 |

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| **9** | Which is the approximate answer when solving for x: 5 + 1259x-2 = 155  |
|  | **A** | x = 0.25 | **C** | x = 0.4125 |
|  | **B** | x = 0.5 | **D** | x = 0.3375 |

10) Which equation describes the graph?

|  |  |
| --- | --- |
| 1. Y = 30cos(x) – 10
 | 1. Y = 10cos(x) + 20
 |
| 1. Y = 10cos(x) – 20
 | 1. Y = 30cos(x) + 20
 |

11) Which equation describes the graph?

|  |  |
| --- | --- |
| 1. Y = 700cos(x) – 600
 | 1. Y = 100cos(x) + 600
 |
| 1. Y = 300cos(x) + 400
 | 1. Y = 300cos(x) + 400
 |

12) Which graph shows the function y = sin(x), transformed so that it has an amplitude of 4 and a period of and is translated up 5 units?



