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| Homework 1.6 |

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| 1. | **Writing:** In your own words, what is the difference between inductive and deductive reasoning. | 2. | **Writing:** In your own words, what is a NEXT-NOW equation? Make up an example and find its NEXT-NOW equation. |

**Find the next three numbers in the given patterns. Write the NEXT-NOW equation for each.**

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| --- | --- | --- | --- |
| 3. | 6, 10, 14, 18, … | 4. | 5, 15, 45, 135, … |

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| --- | --- | --- | --- |
| 5. | 700, 175, 43.75, … | 6. | 8, 11, 17, 29, … |

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| --- | --- | --- | --- |
| 7. | 38, 33, 28, 23, … | 8. | 5, 30, 130, 530, … |

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| 9. | A tree is growing according to the table below. Write a NEXT-NOW equation for the heights of the tree. Predict the height in 2014. | 10. | A bacteria colony is growing according to the table below. Write a NEXT-NOW equation for the colony’s population. Predict the population after 10 days. |

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| --- | --- | --- | --- | --- | --- |
| **Day** | **1** | **2** | **3** | **4** | **5** |
| **Number**  **Bacteria** | 3 | 7 | 15 | 31 | 63 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year** | **2000** | **2001** | **2002** | **2003** | **2004** |
| **Height (ft)** | 6 | 8 | 10 | 12 | 14 |

**Deductive Reasoning**

Write an Algebraic Proof for each of the given equations.

11.  12. 