Name:

**1.3 Solving Linear Equations**

**Evaluate vs. Solve**

**Addition Property of Equality:**

**Subtraction Property of Equality:**

**Multiplication Property of Equality:**

**Division Property of Equality:**

**Each of the following proofs has the statements given. Use the properties found on page 5 and page 19 of your book to find the correct reason for each statement.**

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| 1.) | Given: $\frac{3}{7}$x + 9 = 15 Prove: x = 14 |

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|  | **Statement** | **Reason** |
| 1.) | $\frac{3}{7}$x + 9 = 15 |  |
| 2.) | $\frac{3}{7}$x + 9 – 9 = 15 – 9  |  |
| 3.) | $\frac{3}{7}$x + 0 = 15 – 9  |  |
| 4.) | $\frac{3}{7}$x + 0 = 6 | Simplify Like Terms |
| 5.) | $\frac{3}{7}$x = 6 |  |
| 6.) | $\frac{7}{3}·\frac{3}{7}$x = $\frac{7}{3}·$ 6 |  |
| 7.) | 1$·$ x = $\frac{7}{3}·$ 6 |  |
| 8.) | 1$·$ x = 14 | Simplify Like Terms |
| 9.) | x = 14 |  |

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| 2.) | Given: 5(2x – 4) + 3 = 33Prove: x = 5 |

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|  | **Statement** | **Reason** |
| 1.) | 5(2x – 4) + 3 = 33 |  |
| 2.) | 10x – 20 + 3 = 33 |  |
| 3.) | 10x – 17 = 33 | Simplify Like Terms |
| 4.) | 10x – 17 + 17 = 33 + 17 |  |
| 5.) | 10x + 0 = 33 + 17 |  |
| 6.) | 10x + 0 = 50 | Simplify Like Terms |
| 7.) | 10x = 50 |  |
| 8.) | $\frac{1}{10}·$ 10x = $\frac{1}{10}·$ 50 |  |
| 9.) | 1 · x = $\frac{1}{10}·$ 50 |  |
| 10.) | 1 · x = 5 | Simplify Like Terms |
| 11.) | x = 5 |  |

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