Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_

GSE Algebra 1 Day 3 – Algebraic Proofs Day 2 Notes

When we solve equations, we use all kinds of properties such as:

|  |  |
| --- | --- |
| **Equation** | **Properties** |
|  | Given |
|  | Distributive Property |
|  |  |
|  | Combine Like Terms/Simplify |
|  | Addition Property of Equality |
|  |  |
|  | Subtraction Property of Equality |
|  |  |
|  | Division Property of Equality |
|  |  |

Now, you try! Name the properties in each step:

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

|  |  |
| --- | --- |
|  | Given |
|  |  |
| 3x = -3 |  |
|  |  |
| x = -1 |  |

Algebraic Proofs

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Practice

Period \_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1.** | Solve 48 = 5(2*x* – 7) + 3.  Justify each step. You may not use all the rows in the proof. | |  |  | | --- | --- | | **Statement** | **Reason** | | 48 = 5(2*x* – 7) + 3 | Given | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2.** | Solve 3x + 4 = 12(*x* + 2) – 5x.  Justify each step. You may not use all the rows in the proof. | |  |  | | --- | --- | | **Statement** | **Reason** | | 3x + 4 = 12(*x* + 2) – 5x | Given | |  |  | |  |  | |  |  | |  |  | |  |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **3.** | Solve  .  Justify each step. You may not use all the rows in the proof. | |  |  | | --- | --- | | **Statement** | **Reason** | |  | Given | |  |  | |  |  | |  |  | |  |  | |

1. Each of the following equations has the same solutions as . Explain why by giving the name of one of the reasons we have discussed.
   1.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_