**You must show work/explain EVERY question, even the multiple choice questions.**

**Multiple Choice: (2) points each.**

1. When solving for the value of *x* in the equation , Aaron wrote the following lines on the board.

 [line 1] 

 [line 2] 

 [line 3] 

 [line 4] 

 [line 5] 

Which property was used *incorrectly* when going from line 2 to line 3?

|  |  |  |  |
| --- | --- | --- | --- |
| 1) | distributive | 3) | associative |
| 2) | commutative | 4) | multiplicative inverse |

1.)\_\_\_\_\_\_\_\_\_

 2.) What is the slope of a line that passes through the points  and ?

|  |  |  |  |
| --- | --- | --- | --- |
| 1) |  | 3) |  |
| 2) |  | 4) |  |

2.)\_\_\_\_\_\_\_\_\_

 3.) Evaluate expression  when ?

|  |  |  |  |
| --- | --- | --- | --- |
| 1) | -24 | 3) | 21 |
| 2) | -9 | 4) | 45 |

3.)\_\_\_\_\_\_\_\_\_

 4.) Which equation represents a line that is parallel to the *y*-axis?

|  |  |  |  |
| --- | --- | --- | --- |
| 1) |  | 3) |  |
| 2) |  | 4) |  |

 4.)\_\_\_\_\_\_\_\_\_

 5.) The lengths of the sides of a right triangle can be

|  |  |  |  |
| --- | --- | --- | --- |
| 1) |  | 3) |  |
| 2) |  | 4) | 5.)\_\_\_\_\_\_\_\_\_ |

**Short Answer (2) points.**

 6.) Find the solution to the equation .

 6.) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Short Answer (3) points.**

 7.) When  is subtracted from , the result is

 7.)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Short Answer (5) points.**

 8.) Find the solution(s) to a and b below.

 a.) $4x-30=-3x+12$ b.) 

 c.) **EXPLAIN** the difference between the two (consider graphing solutions on a number line for each)