Name:

Date:

School:

Facilitator:

5.04 Proving Lines Parallel

Total Points: 56

**Are lines x and y parallel? State your reasoning for each answer.**

|  |  |
| --- | --- |
| A transversal intersecting a pair of lines x and y •  The angle to the left of the transversal and at the top of line x measures 130 degrees. •  The angle to the left of the transversal and at the top of the line y measures 130 degrees. | A transversal intersecting a pair of lines x and y •  The angle to the right of the transversal and at the top of the line x measures 55 degrees. •  The angle to the left of the transversal and at the bottom of the line y measures 58 degrees. |
| 1. Are lines x and y parallel? (yes / no) :       Reason: | 1. Are lines x and y parallel? (yes / no) :       Reason: |
| A transversal intersecting a pair of lines x and y •  The angle to the left of the transversal and at the top of line x measures 55 degrees. •  The angle to the left of the transversal and at the bottom of line y measures 125 degrees. | A transversal intersecting a pair of lines x and y •  The angle to the right of the transversal and at the bottom of line x measures 120 degrees. •  The angle to the left of the transversal and at the top of line y  measures 120 degrees. |
| *y* |  |
| 1. Are lines x and y parallel? (yes / no) :       Reason: | 1. Are lines x and y parallel? (yes / no) :       Reason: |
|  |  |
| A transversal intersecting a pair of lines x and y •  The angle to the left of the transversal and at the bottom of line x measures 65 degrees. •  The angle to the left of the transversal and at the top of line y measures 120 degrees. | A transversal intersecting a pair of lines x and y •  The angle to the right of the transversal and at the bottom of line x measures 115 degrees. •  The angle to the right of the transversal and at the bottom of line y measures 115 degrees. |
| 1. Are lines x and y parallel? (yes / no) :       Reason: | 1. Are lines x and y parallel? (yes / no) :       Reason: |

A transversal intersecting a pair of lines a and b
•  The angle to the right of the transversal and at the top of line a measures 3x plus 10 degrees.
•  The angle to the right of the transversal and at the top of line b measures 70 degrees.

7. For lines a and b to be parallel, what is the value of x?:        
Work: