

Name: \_\_\_\_\_

Class/Block: \_\_\_\_\_ Date: \_\_\_\_\_

## Exploration: Are They Linear? (1)

1. Look at the ordered pairs in the tables provided. Predict whether the table represents a linear function. Record your predictions in the table below.

| Table   | Record your prediction and explain why you think this is true. |          |   |   |    |    |   |    |    |    |  |
|---|--|----------|---|---|----|----|---|----|----|----|--|
| <table style="border-collapse: collapse; margin: 0 auto;"> <tr><td style="border-right: 1px solid black; padding: 2px 5px;"><b>x</b></td><td style="padding: 2px 5px;"><b>y</b></td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">1</td><td style="padding: 2px 5px;">4</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">4</td><td style="padding: 2px 5px;">6</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">5</td><td style="padding: 2px 5px;">8</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">10</td><td style="padding: 2px 5px;">10</td></tr> </table>  | <b>x</b>   | <b>y</b> | 1 | 4 | 4  | 6  | 5 | 8  | 10 | 10 |  |
| <b>x</b>  | <b>y</b>   |          |   |   |    |    |   |    |    |    |  |
| 1   | 4  |          |   |   |    |    |   |    |    |    |  |
| 4   | 6  |          |   |   |    |    |   |    |    |    |  |
| 5   | 8  |          |   |   |    |    |   |    |    |    |  |
| 10  | 10   |          |   |   |    |    |   |    |    |    |  |
| <table style="border-collapse: collapse; margin: 0 auto;"> <tr><td style="border-right: 1px solid black; padding: 2px 5px;"><b>x</b></td><td style="padding: 2px 5px;"><b>y</b></td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">1</td><td style="padding: 2px 5px;">2</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">2</td><td style="padding: 2px 5px;">4</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">3</td><td style="padding: 2px 5px;">7</td></tr> <tr><td style="border-right: 1px solid black; padding: 2px 5px;">4</td><td style="padding: 2px 5px;">11</td></tr> </table>   | <b>x</b>   | <b>y</b> | 1 | 2 | 2  | 4  | 3 | 7  | 4  | 11 |  |
| <b>x</b>  | <b>y</b>   |          |   |   |    |    |   |    |    |    |  |
| 1   | 2  |          |   |   |    |    |   |    |    |    |  |
| 2   | 4  |          |   |   |    |    |   |    |    |    |  |
| 3   | 7  |          |   |   |    |    |   |    |    |    |  |
| 4   | 11   |          |   |   |    |    |   |    |    |    |  |
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| <b>x</b>  | <b>y</b>   |          |   |   |    |    |   |    |    |    |  |
| 4   | 9  |          |   |   |    |    |   |    |    |    |  |
| 5   | 11   |          |   |   |    |    |   |    |    |    |  |
| 6   | 13   |          |   |   |    |    |   |    |    |    |  |
| 7   | 15   |          |   |   |    |    |   |    |    |    |  |
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| <b>x</b>  | <b>y</b>   |          |   |   |    |    |   |    |    |    |  |
| 2   | 5  |          |   |   |    |    |   |    |    |    |  |
| 10  | 13   |          |   |   |    |    |   |    |    |    |  |
| 1   | 4  |          |   |   |    |    |   |    |    |    |  |
| 4   | 7  |          |   |   |    |    |   |    |    |    |  |

2. In the applet, click on the "Plot pt" check box beside a point.

|                                     |          |                                     |          |                                     |                                  |                                     |          |                                  |          |          |                                  |
|-------------------------------------|----------|-------------------------------------|----------|-------------------------------------|----------------------------------|-------------------------------------|----------|----------------------------------|----------|----------|----------------------------------|
| <b>x</b>                            | <b>y</b> | <input type="checkbox"/> Plot pt    | <b>x</b> | <b>y</b>                            | <input type="checkbox"/> Plot pt | <b>x</b>                            | <b>y</b> | <input type="checkbox"/> Plot pt | <b>x</b> | <b>y</b> | <input type="checkbox"/> Plot pt |
| 1                                   | 4        | <input type="checkbox"/>            | 1        | 2                                   | <input type="checkbox"/>         | 4                                   | 9        | <input type="checkbox"/>         | 2        | 5        | <input type="checkbox"/>         |
| 4                                   | 6        | <input type="checkbox"/>            | 2        | 4                                   | <input type="checkbox"/>         | 5                                   | 11       | <input type="checkbox"/>         | 10       | 13       | <input type="checkbox"/>         |
| 5                                   | 8        | <input type="checkbox"/>            | 3        | 7                                   | <input type="checkbox"/>         | 6                                   | 13       | <input type="checkbox"/>         | 1        | 4        | <input type="checkbox"/>         |
| 10                                  | 10       | <input type="checkbox"/>            | 4        | 11                                  | <input type="checkbox"/>         | 7                                   | 15       | <input type="checkbox"/>         | 4        | 7        | <input type="checkbox"/>         |
| <input type="checkbox"/> Check line |          | <input type="checkbox"/> Check line |          | <input type="checkbox"/> Check line |                                  | <input type="checkbox"/> Check line |          |                                  |          |          |                                  |

Describe what happens:



Name: \_\_\_\_\_

Class/Block: \_\_\_\_\_ Date: \_\_\_\_\_

3. For each table:

- Plot all four points for a given table. Look at the points.
- Click on the “Check line” checkbox.
- Look at the line to see if it goes through all the points for the table.
- Record you observations in the table below.

| Table  | Record your observations. Explain whether you would change your prediction based on your observations. |   |   |   |    |    |   |    |    |    |  |
|--|--|---|---|---|----|----|---|----|----|----|--|
| <table border="1"><thead><tr><th>x</th><th>y</th></tr></thead><tbody><tr><td>1</td><td>4</td></tr><tr><td>4</td><td>6</td></tr><tr><td>5</td><td>8</td></tr><tr><td>10</td><td>10</td></tr></tbody></table>  | x  | y | 1 | 4 | 4  | 6  | 5 | 8  | 10 | 10 |  |
| x  | y  |   |   |   |    |    |   |    |    |    |  |
| 1  | 4  |   |   |   |    |    |   |    |    |    |  |
| 4  | 6  |   |   |   |    |    |   |    |    |    |  |
| 5  | 8  |   |   |   |    |    |   |    |    |    |  |
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| x  | y  |   |   |   |    |    |   |    |    |    |  |
| 1  | 2  |   |   |   |    |    |   |    |    |    |  |
| 2  | 4  |   |   |   |    |    |   |    |    |    |  |
| 3  | 7  |   |   |   |    |    |   |    |    |    |  |
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| x  | y  |   |   |   |    |    |   |    |    |    |  |
| 4  | 9  |   |   |   |    |    |   |    |    |    |  |
| 5  | 11   |   |   |   |    |    |   |    |    |    |  |
| 6  | 13   |   |   |   |    |    |   |    |    |    |  |
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| x  | y  |   |   |   |    |    |   |    |    |    |  |
| 2  | 5  |   |   |   |    |    |   |    |    |    |  |
| 10   | 13   |   |   |   |    |    |   |    |    |    |  |
| 1  | 4  |   |   |   |    |    |   |    |    |    |  |
| 4  | 7  |   |   |   |    |    |   |    |    |    |  |

