Name: $\qquad$
Class/Block: Date: $\qquad$

## Exploration: Are They Linear? (2a)

## I. Launch the Are They Linear (2a) Applet.


II. Complete the following chart: Look at the equations provided. Predict whether the equation represents a linear function. Record your predictions in the table below.

| Equation | Is the equation a linear function? <br> Record your prediction and justify <br> your reasoning. | Solve the Equation for y <br> Provide the slope-intercept form <br> of the equation. |
| :---: | :--- | :--- |
| $y+2=-x+10$ |  |  |
| $y=x+14$ |  |  |
| $-y=x-6$ |  |  |
| $3 x+4 y-2=-y-2 x+8$ |  |  |
| $x=5 y-10$ |  |  |

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## III. Use the applet to check your predictions:

A. Notice the Input box at the bottom of the applet.
(B) Input:
B. You will type in the simplified expression in y intercept form then hit enter to check your prediction.

Example: (8) Input: $y=-x+8 \mid$
C. Click the first checkbox to see the graph of the equation.
(A graph in the color of the corresponding equation will be drawn on top of the line you enter if your prediction is correct.)
Click the $2^{\text {nd }}$ checkbox to the simplified version of the equation.

| Are They Linear? (2a): Equations |  |  |
| :--- | :---: | :--- |
| $\nabla$ Ex. 1 | $y+2=-x+10$ | $\ulcorner$ |
| $\nabla$ |  |  |
| $\nabla$ Ex. 2 | $y=x+14$ | $\ulcorner\ulcorner$ |
| $\nabla$ Ex. 3 | $-y=x-6$ | $\ulcorner\ulcorner$ |
| $\nabla$ Ex. 4 | $3 x+4 y-2=-y-2 x+8$ | $\ulcorner\ulcorner$ |
| $\nabla$ Ex. 5 | $x=5 y-10$ | $\ulcorner\ulcorner$ |

D. Go back to the table on the first page to make changes as needed.

