Complete the chart. Then graph them all the lines on the same coordinate grid.

Line Design

1) y = -½x + 9 2) y = -x + 9

|  |  |  |  |
| --- | --- | --- | --- |
| x | y = | y | (x,y) |
| -4 |  |  |  |
| -2 |  |  |  |
| 0 |  |  |  |
| 2 |  |  |  |
| 4 |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| x | y = | y | (x,y) |
| -2 |  |  |  |
| -1 |  |  |  |
| 0 |  |  |  |
| 1 |  |  |  |
| 2 |  |  |  |

3) y = -2x + 9 4) y = ½x + 9

|  |  |  |  |
| --- | --- | --- | --- |
| x | y = | y | (x,y) |
| -2 |  |  |  |
| -1 |  |  |  |
| 0 |  |  |  |
| 1 |  |  |  |
| 2 |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| x | y = | y | (x,y) |
| -4 |  |  |  |
| -2 |  |  |  |
| 0 |  |  |  |
| 2 |  |  |  |
| 4 |  |  |  |

5) y = x + 9 6) y = 2x + 9

|  |  |  |  |
| --- | --- | --- | --- |
| x | y = | y | (x,y) |
| -2 |  |  |  |
| -1 |  |  |  |
| 0 |  |  |  |
| 1 |  |  |  |
| 2 |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| x | y = | y | (x,y) |
| -2 |  |  |  |
| -1 |  |  |  |
| 0 |  |  |  |
| 1 |  |  |  |
| 2 |  |  |  |

7) y = -½x -3 8) y = -x -3

|  |  |  |  |
| --- | --- | --- | --- |
| x | y = | y | (x,y) |
| -2 |  |  |  |
| -1 |  |  |  |
| 0 |  |  |  |
| 1 |  |  |  |
| 2 |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| x | y = | y | (x,y) |
| -4 |  |  |  |
| -2 |  |  |  |
| 0 |  |  |  |
| 2 |  |  |  |
| 4 |  |  |  |

Graph the lines of the next 10 equations on the same coordinate grid as the first 8 lines.

Use what you know about ***slope-intercept form*** (*y = mx + b*) to graph these next 10 lines.

9) y = -2x -3 10) y = ½x -3

11) y = x – 3 12) y = 2x - 3

13) y = 3x + 3 14) y = -⅓x + 3

15) y = -3x + 3 16) y = ⅓x + 3

17) y = 9 18) y = -3

Record any observations you made while completing this activity: