**Working with Inequalities**

Complete the following table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Inequality** | **Rewrite if necessary** | **Say it in words** | **Graph it** | **Name a point in the solution set** | **Check that it works (substitute)** |
| *x* > 5 |  |  |  |  |  |
| *y* ≤ 2 |  |  |  |  |  |
| 8 > *a* |  |  |  |  |  |
| –3 ≤ *m* |  |  |  |  |  |

You should also be able to work backwards. Write the inequality represented by each graph, using any variable you choose.

1. 2.



1. 4.



1. 6.

Often you will need to solve an inequality before graphing it. This is almost like solving an equation - “undo” what’s been done to the variable.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Inequality** | **Solve it** | **Rewrite if necessary**  | **Say it in words** | **Graph it** | **Pick a point** | **Check it** |
| 3*x* > 12 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 9 > *n* - 1 |  |  |  |  |  |  |
| –3 ≤ *m* + 4 |  |  |  |  |  |  |
| 2*x* + 5 < 17 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |