*Each group will have 4 problems. They have to work on each problem in order to derive a rule for solving inequalities when dividing and multiplying. The final product will be a poster with four problems glued on it and a final conclusion to the rule. Question: What is the rule when you multiply or divide by a negative coefficient?*

1. *Have students work on it independently and don’t tell them the question. Only tell them that they need to write rule after they look at every work.*
2. *Go split into four group that has the same problem so they can compare answer*
3. *Students go back to their tables*
4. *Give them the question so they can come up with the rule*
5. *Make a poster*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PROBLEM 1:** Substitute in for each value.NAME: $$-4m\geq -4$$

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **m** | **-3** | **-2** | **-1** | **0** | **1** | **2** | **3** |
| $$-4m$$ |  |  |  |  |  |  |  |
| TRUE or FALSE |  |  |  |  |  |  |  |

Create a graph that will make the table true: Write an inequality for the graph:  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PROBLEM 2:** Substitute in for each value.NAME: $$0>-2n$$

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **n** | **-3** | **-2** | **-1** | **0** | **1** | **2** | **3** |
| $$-2n$$ |  |  |  |  |  |  |  |
| TRUE or FALSE |  |  |  |  |  |  |  |

Create a graph that will make the table true: Write an inequality for the graph:  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PROBLEM 3:** Substitute in for each value.NAME: $$1<\frac{n}{-2}$$

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **n** | **-5** | **-4** | **-3** | **-2** | **-1** | **0** | **1** |
| $$\frac{n}{-2}$$ |  |  |  |  |  |  |  |
| TRUE or FALSE |  |  |  |  |  |  |  |

Create a graph that will make the table true: Write an inequality for the graph:  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PROBLEM 4:** Substitute in for each value.NAME: $$-\frac{2}{3}x\leq -2$$

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **x** | **-1** | **0** | **1** | **2** | **3** | **4** | **5** |
| $$-\frac{2}{3}x$$ |  |  |  |  |  |  |  |
| TRUE or FALSE |  |  |  |  |  |  |  |

Create a graph that will make the table true: Write an inequality for the graph:  |