**When Do We Flip It?**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1a. Start with this table. Fill in the appropriate symbol (< or >) between Columns A and B.

|  |  |  |
| --- | --- | --- |
| **20 No.** | **Symbol** | **B** |
| 3 | < | 5 |
| –7 |  | 4 |
| 0 |  | 8 |
| 6 |  | 3 |

2a. Start with this table. Fill in the appropriate symbol (< or >) between Columns A and B.

|  |  |  |
| --- | --- | --- |
| **A** | **Symbol** |  **B** |
| 3 | < | 5 |
| –7 |  | 4 |
| 0 |  | 8 |
| 6 |  | 3 |

 | 1b. **Add** 4 to BOTH columns and complete the table with the correct inequality symbol.

|  |  |  |
| --- | --- | --- |
| **A** | **Symbol** | **B** |
| $$3+4=7$$ | < | $$5+4=9$$ |
|  |  |  |
|  |  |  |
|  |  |  |

2b. **Add** -4 to BOTH columns and complete the  table with the correct inequality symbol.

|  |  |  |
| --- | --- | --- |
| **A** | **Symbol** | **B** |
| $$3+\left(-4\right)=-1$$ | < | $$5+\left(-4\right)=1$$ |
|  |  |  |
|  |  |  |
|  |  |  |

 |

3. Does **adding** a positive or negative number change the inequality symbol? Explain.

4. Solve the inequality and graph the solution:

 $8+x<2$8 $-8+x<2$



|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5a. Start with this table. Fill in the appropriate symbol (< or >) between Columns A and B.

|  |  |  |
| --- | --- | --- |
| **A** | **Symbol** | **B** |
| 3 | < | 5 |
| –7 |  | 4 |
| 0 |  | 8 |
| 6 |  | 3 |

6a. Start with this table. Fill in the appropriate symbol (< or >) between Columns A and B.

|  |  |  |
| --- | --- | --- |
| **A** | **Symbol** | **B** |
| 3 | < | 5 |
| –7 |  | 4 |
| 0 |  | 8 |
| 6 |  | 3 |

 | 5b. **Divide** BOTH columns by 2 and complete the table with the correct inequality symbol.

|  |  |  |
| --- | --- | --- |
| **A** | **Symbol** | **B** |
| 3 / 2 = 1.5 | < | 5 / 2 = 2.5 |
|  |  |  |
|  |  |  |
|  |  |  |

6b. **Divide** BOTH columns by –2 and complete  the table with the correct inequality symbol.

|  |  |  |
| --- | --- | --- |
| **A** | **Symbol** | **B** |
| 3 / (-2) = -1.5 | > | 5 / (-2) = -2.5 |
|  |  |  |
|  |  |  |
|  |  |  |

 |

7. Does **dividing** by a positive or negative number change the inequality symbol? Explain.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8a. Start with this table. Fill in the appropriate symbol (< or >) between Columns A and B.

|  |  |  |
| --- | --- | --- |
| **A** | **Symbol** | **B** |
| 3 | < | 5 |
| –7 |  | 4 |
| 0 |  | 8 |
| 6 |  | 3 |

9a. Start with this table. Fill in the appropriate symbol (< or >) between Columns A and B.

|  |  |  |
| --- | --- | --- |
| **A** | **Symbol** | **B** |
| 3 | < | 5 |
| –7 |  | 4 |
| 0 |  | 8 |
| 6 |  | 3 |

 | 8b. **Multiply** BOTH columns by 3 and complete  the table with the correct inequality symbol.

|  |  |  |
| --- | --- | --- |
| **A** | **Symbol** | **B** |
| $$3∙3=9$$ | < | $$5∙3=15$$ |
|  |  |  |
|  |  |  |
|  |  |  |

9b. **Multiply** BOTH columns by –3 and complete  the table with the correct inequality symbol.

|  |  |  |
| --- | --- | --- |
| **A** | **Symbol** | **B** |
| $$3∙\left(-3\right)=-9$$ | > | $$5∙\left(-3\right)=-15$$ |
|  |  |  |
|  |  |  |
|  |  |  |

 |

1. Does **multiplying** by a positive or negative number change the inequality symbol? Explain.
2. Solve the inequality and graph the solution. **Remember**, if you multiply or divide both sides of the inequality by a negative number, reverse (flip) the inequality symbol.

   



 $7x-3<-59$ $-10x+4<42$ $13-3x\geq 70$

